



County Borough of Stoke-on-Trent.

ANNUAL REPORT  
OF THE  
SCHOOL MEDICAL  
OFFICER  
FOR THE YEAR 1920.

ROBERT HUGHES, M.B.

School Medical Officer.

BURSLEM :

W. E. WESTLAKE, CAXTON PRESS, TOP OF NEWCASTLE STREET.





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To the Chairman and Members of the  
Stoke-on-Trent Education Committee.

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Mr. Chairman, Ladies and Gentlemen,

I have the honour to submit to your notice my Annual Report of work carried out in the School Medical Department during the year 1920.

Although one has had to refer to many matters in the course of the present report as having been "held up owing to the existing financial situation," optimism is a salient feature of British character, and one is, therefore, confident that existing difficulties will be overcome sooner or later, and that we shall then be able to resume our march forward, although we may have to be content for a time with consolidating the position already won.

In preparing this report I have followed the headings recently issued by the Board of Education. The "table of contents" is, in fact, merely a condensed copy of these.

I have the honour to be,

Ladies and Gentlemen,

Your obedient servant,

Town Hall,

ROBERT HUGHES,

Hanley,

School Medical Officer.

Stoke-on-Trent,

February, 1921.

## STAFF.

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### School Medical Officer.

Robert Hughes, M.B. (Lond.), M.R.C.S., L.R.C.P., Med.  
Psychol. Certif.

### Assistant School Medical Officers.

E. A. C. Swainson, M.A., M.B., B.C. (Camb.), M.R.C.S.,  
L.R.C.P.

William Duncan Lawrie, M.D., F.R.C.S. (Edin.)

E. Paxton Dewar, L.R.C.S., L.R.C.P., L.M. (Irel.)

### School Dental Officer.

H. H. Chapman, L.D.S. (Edin.)

### School Nursing Staff.

Harriet Pitt

May Dracott.

Annie Boulton (1).

Clara Wood.

Annie Boulton (2).

### Resident at Hanchurch Open-Air School.

Lilian Norris

...

Matron.

Lily Evans

...

Nurse.

### School Dental Nurse.

Lilian Burgess.

### Clerical Staff.

Hilda Simpson ... Office Clerk.

Muriel Webberley ... Clinical Record Clerk (Hanley).

Vera Allman ... Clinical Record Clerk (Burslem).

(All these are whole-time officials.)

The School Medical Officer also acts as Mental Specialist at the Psychiatric Clinic, Dr. Swainson as Ear Specialist, and Dr. Lawrie as Eye Specialist at the school clinics.

The amount of refraction work is, however, so great that all have taken a share in it, exceptional cases being referred to Dr. Lawrie.

It was anticipated that the opening of the treatment clinic at Burslem would have relieved the pressure of work at the Hanley Clinic considerably. Not only, however, has the diminution in the work at the Hanley Clinic been unappreciable, but the amount to be coped with at Burslem has been greater even than at Hanley. At Hanley one Nurse has been able to get into the schools a few afternoons per week but at Burslem

even this has not been possible. It was attempted on one occasion but it was found necessary to instruct the Nurse to leave her school work and return to the Clinic. With these exceptions it has been necessary to detail two Nurses for work at each of the Clinics, leaving one only constantly available for work in the schools.

Nurse Pitt has also acted as "Social Worker" in connection with the Psychiatric Clinic, a position which involves a considerable amount of "home visiting."

The whole of the time of the School Dental Nurse is occupied with the Dental Department.

There is no doubt that considerable additions will have to be made to the School Nursing Staff as soon as the financial situation permits. Leeds has a staff of twenty-three.

The subject of personal cleanliness, forming as it does an important part of "practical hygiene" is one with which the Teachers are more immediately concerned. These are doing their best, in many cases under very unfavourable circumstances. A sufficient number of School Nurses to undertake routine inspection of the person and clothing of children in the schools and "following up" at the children's homes is, however, essential in order to cope effectively with this prevalent factor in the production of unhealthy conditions in school children.

A number of requests from Head Teachers for a visit of a School Nurse to their departments have had to be refused owing to there having been no nurse available.

Further details as to the work of School Nurses will be found in a later section.

The appointment of an additional Assistant School Medical Officer will also be essential before routine medical inspection in Secondary Schools can be undertaken. Considering the age of the girls to be inspected, this officer should be a woman.

## (2). Co-ordination.

No special arrangements have as yet been made to secure co-ordination between the School Medical Department and Infant and Child Welfare Centres or with activities dealing with debilitated children under school age. The Nursery Class at St. Peter's R.C. School, Stoke, is, however, under the medical supervision of the School Medical Officer,



### (3). The School Medical Service in relation to Public Elementary Schools. ;

(a) *School Hygiene.* The Assistant School Medical Officers note any conditions at the Schools requiring attention during their visits for routine medical inspection of children; one has also visited a certain number personally. These matters are reported to the Local Education Authority's Architect, Mr. Ashworth, and, when necessary, are considered by the Sites' and Buildings' Sub-Committee. Mr. Ashworth also makes a large number of visits to the schools himself.

*Ventilation.* The natural system is now used everywhere. One school was formerly ventilated on the plenum mechanical system, but the machinery has been out of order for some time and it has been decided to sell it and devote the proceeds to making the necessary structural alterations to secure adequate ventilation by natural means. In all the newest schools ventilation is excellent, those of medium age and built on the large central hall plan present the drawback inevitable in that type of school, viz : absence or inefficiency of crossed ventilation of classrooms. In the oldest type of all it is not satisfactory. In one instance I was informed that whenever it was desired to open extra windows the caretaker had to be sent for.

*Lighting.* There are still one or two dark corners left in some of the older schools while in others lighting does not come from the best quarter, the left, but, as a rule, natural lighting is quite good, and in some cases excellent. In several instances, however, the windows have been in such a dirty condition that the best lighting effects have not been forthcoming. Structural alterations to improve lighting have been made in two instances. Artificial lighting is still poor in many cases in which gas is the illuminant. In one case additional sources of light have been supplied, while in another this matter is in hand.

*Warming.* In 67 departments hot water heating apparatus is used of which 34 have high and 33 low pressure boilers. An annual inspection has been made of all high pressure boilers by a qualified engineer in accordance with Circular 828, Board of Education, 6/4/14. Whenever a new boiler is required a low pressure one is supplied. One such substitution is being made at the present time while in two other cases the entire heating apparatus has been renovated during the year. Several schools of old type are unprovided with any source of artificial heating in the cloakrooms and consequently have no means of drying cloaks in wet, wintry weather. In most Infants' Departments a supply of slippers is kept which have been made at the school. Three thousand pairs of rope soled shoes were



purchased in April last in connection with the physical training schemes, these also come in handy where children arrive at school with wet feet.

*Playground surfaces.* These have been renovated on twelve cases and there are now only two which can be said to be really bad.

*Drainage, etc.* All conveniences are on the water carriage system. No remedial measures have been necessary beyond the removal of minor stoppages.

*Desks.* The old custom of providing desks of one size only to a whole department has been abolished for some years and most of these desks have been replaced by a modern type suitably graded. A number of the original type are; however, still found, especially in the Longton area.

*Cleanliness.* Twenty schools have been repainted. The general condition of many of the schools leaves much to be desired. These remarks apply with special force to the condition of lavatory taps and basins. Many of these present such an uninviting appearance that, personally, one would prefer to leave one's hands unwashed rather than make use of them.

#### (4). Medical Inspection.

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##### Routine cases.

(a). The age groups of the children included in the scheme for routine medical inspection are those prescribed by the Code, Article 58 (b) These are :—

- (1) "Entrants," that is all children admitted to school in the year ending on the 31st March. Number inspected 4,420.
- (2) "Intermediates," that is all children between eight and nine years of age. Number inspected 4,453.
- (3) "Leavers," that is all children between twelve and thirteen years of age, together with children over thirteen who have not already been examined after reaching the age of twelve. Number inspected 4,694.
- (4) Dental inspection of all children between six and eight years of age. Number inspected 6,578.

### Special Cases.

To the four classes enumerated in previous reports, the following must now be added :—

- (5) Juvenile delinquents referred by the Bench for medico-psychological examination.
- (6) Medico-psychological examination of relatives of school age of persons admitted to the local mental hospital.
- (7) Children examined under the Employment of Children Act, 1903, as amended by the Education Act, 1918.
- (8) All children admitted to or discharged from the Hanchurch Residential Open-Air School as well as any cases of sickness occurring there which have been reported by the Matron.
- (9) Special cases submitted to the School Dentist by Medical Officers and Teachers,

(b). The Schedule of Medical Inspection of the Board of Education has been adopted.

(c). Steps taken to secure the early ascertainment of crippling defects—

An exceptional children register was commenced in January, 1919.

Cases not on the school registers are reported to me by the Attendance Officers.

Cases attending school are brought to the notice of Medical Officers by Head Teachers. The Medical Officers forward me a weekly list of such children.

A certain amount of information concerning individual children has been received from time to time from the North Staffordshire Cripples' Aid Society.

Some informal conversations have taken place between the Medical Officer of Health and myself, with a view to making some definite arrangement, whereby cases ascertained by Health Visitors, and other sources open to the Medical Officer of Health, may be notified to me as soon as these children attain school age, and there is no doubt some such arrangement will be made soon.

The whole scheme for "ascertainment" of physically defective children is one of those matters to which an attempt is now being made to give more "consolidation."

There has been some difficulty in ascertaining exactly what children are undergoing treatment for crippling

defects at the local voluntary hospitals. The numbers, therefore, given in Table III are probably an understatement.

(d). *Disturbance of school arrangements.* In the more modern schools provided with a Head Teacher's private room, the disturbance to school arrangements by routine medical inspection is reduced to a minimum, in the case of older schools not so provided the necessity of sacrificing a classroom involves temporary overcrowding and dislocation of school work. Of a total of 171 departments, 74 are unprovided with a special room. In six of these instances inspection is carried out on premises in the immediate neighbourhood. Application has also been made recently in another instance for sanction to conduct routine medical inspection at one of the School Clinics. In this case the only room available is situated so near a main thoroughfare that noise from passing traffic renders efficient medical examination impossible.

### (5). Findings of Medical Inspection.

(a). *Uncleanliness.* The number of children inspected by the School Nurses amounts to 26,304; of these, 21,385 or 81 per cent. were reported as "clean," 940 or 3 per cent. as having pediculi, 2,692 or 10 per cent. as having nits but no pediculi, 808 or 3 per cent clean but suffering from some form of skin disease, and 476 or 2 per cent. as being simply "unclean." It is difficult, in the amount of time available, to be quite sure of the absence of pediculi in cases exhibiting a number of nits. Pediculi are very adept at crawling round a hair into shadows and so escaping observation, moreover, nits, unless "dead" hatch out rapidly.

**Table showing percentage of verminous children of those examined by School Nurses during 1920 and previous years.**

Year	No. of Children Inspected	No. showing Pediculi or Nits	Per centage showing Pediculi or Nits
1920	26304	3632	13.81
1919	51032	11584	22.21
1918	19483	4244	21.78
1917	21405	5278	28.85
1916	17593	6165	35.09
1915	18012	9502	52.1

The falling off in the number inspected during 1920 has already been accounted for in the section headed "Staff".

It will be noted that the fall in the percentage of verminous children is still maintained. This has been due to the energetic action of the teachers supported by the School Nurses. There is no doubt that these long continued efforts have set up a far healthier "public opinion" on this matter than was evident in the early days of medical inspection.

The number of Departments visited by the School Nurses during the year was 90 out a total of 171, that is to say, they were only able to visit rather more than one half.

The total number of visits made to schools was 15, giving an average number of visits per school of 2.1 and an average number of visits to departments of 0.9.

The total number of examinations made was 27,049 and the number of re-examinations 745

There is no municipal "cleansing station." A few of the worst cases have been "cleaned up" at the School Clinics, but reliance has been placed for the most part on propaganda work.

No legal proceedings have been taken under the Children Act, 1908. Proceedings were taken in three instances under the School Attendance Bye-Laws; two were fined 12/6 and one 8/6.

In an additional twelve cases, prosecuted primarily on account of irregular school attendance, but who were also in a dirty and verminous condition the fines imposed were increased on this account.

(b). *Minor Ailments.* The total number of cases referred for treatment was 5,197 made up as follows :—Ringworm, 584 ; scabies, 351 ; impetigo, 1142 ; minor injuries, 250 ; other skin diseases, 460 ; ear disease, 716 ; external eye disease, 1164 ; miscellaneous, 500.

(c). *Tonsils and Adenoids.* The number of cases referred for treatment was 505, of which 371 were routines. The number referred for subsequent observation was 116 of which 77 were routine cases.

(d). *Tuberculosis.* The number of cases of definite pulmonary tuberculosis was 93, of which 21 were routines, and the number of suspected cases 125, of which 37 were routines. The number of non-pulmonary cases was 60, of which 20 were routines and 40 specials.



(e). *Skin disease.* The total number of cases of all forms was 2,532, of which 338 were routines and 2,194 specials. The numbers referred for treatment have been given above under the heading "minor ailments." The majority were cases of impetigo and scabies. The number of impetigo cases was considerably greater than in the previous year, 1142 in 1920 compared with 576 in 1919. This increase is probably more apparent than real and is to be attributed to the larger number brought under notice through the opening of the Burslem treatment Clinic. It is gratifying to note that, in spite of this fact, the number of scabies cases shows no increase, either apparant or real, over the previous year. As a matter of fact the two figures are identical, viz: 351.

(f). *External Eye Disease.* The number of cases was 1174, of which 1161 were referred for treatment. The majority of these cases were conjunctivitis and keratitis (inflammation of the outer coatings of the eyeball), 618; and blepharitis (inflammation of the lids), 362.

(g). *Vision.* The total number referred for refraction, including squint cases (1), was 1327, of which 739 were routines and 588 specials. The number submitted to refraction at the School Clinics was 921. Deducting 155 cases of squint and 39 due to other causes, the errors of refraction noted were:—

Hyperopia (long sight)	...	173
Hyperopic astigmatism	...	359
Myopia (short sight)	...	52
Myopic astigmatism	...	79
Mixed astigmatism	...	68
		<hr/>
		731

Astigmatism signifies different sight in two meridians.

(h). *Ear disease and hearing.* Total number of whole group, 744; number referred for treatment, 724. Of these 309 were routines and 415 specials.

(i). *Dental defects.* The number of children ascertained to be suffering from dental defects by the Medical Officers during the course of routine inspection was 218. The number given in Tables II and VI refers to these cases only, while those given in Table IV D. refer entirely to cases dealt with by the School Dental Officer.

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(1) The whole subject of squint is dealt with in a special article by Dr. Lawrie (sec. 22, p. 64).

(j). *Crippling defects.* The number of orthopædic cases referred for treatment was 110, of which 67 were routines and 43 specials.

## (6). Infectious Diseases.

The arrangements made between the Medical Officer of Health and the School Medical Officer for dealing with infectious disease in schools was described in detail in the last annual report.

The following cases were notified to the School Medical Officer by Head Teachers :—

Measles	...	2,133	Mumps	...	136
Chicken pox	...	784	Whooping Cough		74

The following departments were closed for the periods stated on account of the prevalence of measles, the authority for closure in each instance being the Local Education Authority acting on the advice of the School Medical Officer :—

Etruria Infants, 3rd February to 1st March.

Penkhull Infants, 10th February to 15th March.

Mt. Pleasant Infants, 19th February to 15th March.

Harpfield Infants, 11th March to 12th April.

Trent Vale Infants, 16th March to 12th April.

The financial situation has prevented any steps being taken towards the adoption of the recommendations contained in the last annual report concerning the control of outbreaks of measles in schools. (1)

The following figures have been supplied by the Medical Officer of Health.

**Number of cases of infectious disease notifiable under the Infectious Diseases Notification Act, occurring among children attending Public Elementary Schools during the year 1920.**

Disease	No. of Cases	Disease	No. of Cases
Diphtheria and Memb.		Erysipelas .. ..	11
Croup .. ..	159	Enteric fever .. ..	2
Scarlet Fever .. ..	726	Cerebro-spinal meningitis	2
Pulmonary Tuberculosis	99	Polionyelitis .. ..	1
Other forms .. ..	77	Encephalitis lethargica..	1
Pneumonia primary ..	86		
Pneumonia broncho-influenzal .. ..	2		

(1) Stoke-on-Trent Annual Report, 1919, p p. 45—47.



### (7). Following up.

The methods employed with a view to ascertain the extent to which defects found during medical inspection have been attended to which were in use prior to the disorganisation of the school medical department by the war were revived in March, 1919. These methods will be found described in full in my annual reports for 1914 and previous years.

Briefly, they consist of : —

- (1) Re-inspection at the schools by the Medical Officers.
- (2) Re-inspection at the three Clinics.
- (3) Information supplied by Head Teachers.
- (4) Home visiting by School Nurses.

The number of home visits paid by School Nurses has been unavoidably small this year owing to the reasons stated in section (1). The actual number was 146.

No following up of dental cases has been possible with the exception of 136 cases re-examined and re-treated at the Dental Clinic who had been instructed to attend for this purpose.

### (8). Medical Treatment.

Up to the commencement of the year under review there were three Clinics in the Borough, of which one only, the Hanley Clinic, was a treatment Clinic, the others, situated at Burslem and Fenton respectively, being merely inspection Clinics. Extensive alterations have since been made at the Burslem Clinic and this was opened as a treatment Clinic in February last. This clinic includes a well fitted up dental department. It has been decided to move the Fenton Clinic to Longton and to convert this also into a treatment clinic, including the provision of a dental department.

Final plans and estimates have been submitted to the Board of Education and we are now only awaiting their sanction.

These two clinics provide for the treatment of minor ailments and refraction work, including a scheme for provision of spectacles. So far, dental treatment is carried out at the Burslem Clinic only. The Hanley Clinic has also a psychiatric department. (See special article section 22, p. 53).

(a). *Minor ailments.* The total number of cases treated was 4,213. Of these 3,933 were treated at the School Clinics and 280 received treatment from other sources. The number treated during 1918 was 1,555. It was pointed out by

Dr. Eichholz, Chief Medical Inspector of the Board of Education, during a visit he paid to the Borough, in January, 1919, that it was necessary to make provision for dealing with an additional 1000 cases annually. It will be seen that this requirement has been already exceeded. As soon as the Longton Clinic is opened it will be exceeded still more.

(b). *Tonsils and adenoids.* The total number referred for treatment was 505 of which 108, or only 21.4 per cent., received treatment. Of these, 56 received operative treatment from hospitals and 52 received other forms of treatment either at hospitals or at the hands of private practitioners. Negotiations with two local hospitals with a view to the formation of a definite scheme for provision of treatment by the Local Education Authority have been going on for several months but, so far, nothing definite has been arranged.

(c). *Tuberculosis.* These cases are passed on to the Tuberculosis Department. The number of tuberculous children certified by the Tuberculosis Officer as fit to return to school was 90. Of these, 70 were pulmonary cases and 20, other forms.

(d). *Skin disease.* The number of cases treated at the School Clinic was 2,381. The number who received treatment from other sources was 167 making a total of 2,548.

(e). *External Eye disease.* The number who received treatment at the School Clinics was 628. The number who received treatment from other sources was 49, making a total of 677. For results obtained by treatment of phlyctenular disease of the eyes at the Hanchurch Residential Open Air School, see special article by Dr. Lawrie (Sect. 22, p. 59).

(f). *Vision.* Glasses were prescribed in 732 instances and are known to have been obtained in 358. Number provided by Local Education Authority :

(a). Free	...	...	27
(b). To be paid for by parent by easy instalments	...	...	31
		Total ...	58
Number provided by Voluntary Bodies			66
		Total ...	124

The total cost of the spectacles provided by the Local Education Authority to be paid for by parents by instalments was £19 7s. 6d. The amount actually recovered from the parents

up to the 31st December last, was £12 18s. 6d. or 63 per cent. This is the only instance, so far, in which any payment by parents has been required for treatment provided by the Local Education Authority. I am strongly of opinion that, so far as minor ailments are concerned, it would be very inadvisable to levy any cost for treatment on the parents. Owing to the peculiar shape of the Borough, parents are already put to considerable expense in tram fares in conveying the children to the Clinics. The question of making a charge for the operative treatment of tonsils and adenoids and for orthopædic cases is another matter entirely.

(g). *Ear disease and hearing.* The number of cases treated at the School Clinics was 447, while 40 obtained treatment from other sources, making a total of 488. For results obtained by treatment at the Clinics see special article by Dr. Swainson, sect. 22, p. 56.

(h). *Dental defects.* A qualified School Dental Officer (Mr. Chapman) was appointed in July, 1919, and commenced duty on September 1st of that year. It was, of course, never contemplated that the whole of the work connected with dental inspection and dental treatment of a school population of upwards of 45,000 children could be carried out by one Dentist. It was considered, and I think rightly, that as the investigation and treatment of dental defects among a large school population was a field of inquiry new and unfamiliar and one whose nature and extent could only be estimated by a dental expert, and the appointment of one Dental Officer to investigate and gain practical experience of the real needs of the area was the wisest course to adopt in the first instance. The following report of the School Dental Officer of twelve months work gives a very fair insight into the nature and extent of the problem, as well as an account of some of its difficulties. The official Board of Education Tables IV D (1) and (2) relating to dental inspection and treatment will be found in Sect. 24 "Statistical Tables."

## REPORT OF SCHOOL DENTAL OFFICER

By H. H. CHAPMAN, L.D.S.

My work as School Dental Officer has now extended over one year. Since January, 1920, I have inspected every one of the Council Schools at least once and many twice. My first inspection was mainly for statistical purposes and in order to familiarise parents and children with the new inspection as well as to explain the need for, and nature of, dental treatment. Under these circumstances it will be readily understood why so few children were referred for clinical treatment, only the most necessitous being chosen.

My second inspection, however, has been much more searching and with good results as parents seem to be realising the benefits offered and more appointments are being kept.

Out of 919 appointments made, however, only 531 were kept. This shows how many are *not* kept. This, at first glance seems very discouraging, but perhaps it is not so. One must consider the great area of the Potteries. It is hopeless to expect children to come, say from Longton or Trent Vale to Burslem, and I have no doubt a very large number of "consent" cards were signed by parents on the expectation of having the work done close at hand, but, when they found that a train or car journey was required they left the matter alone. One can hardly expect people who are unable to pay for treatment to be able to pay their own and their children's travelling expenses, hence one necessity for more Clinics.

Against this, one cannot but be pleased at the number of "special cases," 336, these being, with the exception of cases sent by our doctors, cases which have been presented voluntarily for treatment. In all schools "consent" cards are left with the Head Teachers to be given to children of any age on application, the Clinic being open every Wednesday and Friday for such special cases.

The number of filling cases, and the number of fillings done, shows one of our great aims—to preserve teeth in a useful condition, and I would have no hesitation in saying that had these 873 fillings not been done (they are practically all in permanent teeth), these 312 teeth would have required extraction before the children became twelve years of age.

The number of gas cases, 202, and extractions under gas, 312, could in many cases have been avoided had earlier treatment been obtainable.

The cases without gas are all where temporary teeth had to be removed and where the use of an anæsthetic was not considered advisable, but if the child was likely to suffer, in many cases a spray of ethyl chloride was used.

On four occasions we visited Hanchurch for operations there.

The procedure in the dental care of school children must be similar to that followed in preventative medicine (of which dentistry is now acknowledged to be a very important branch), namely, to *make* and *keep* the scholars healthy. It is not merely a case of extracting or filling decayed teeth, but, in addition to that, the application of hygiene and proper feeding



to prevent unhealthy mouths, throats and noses, not to mention other systemic ailments which are liable to arise through the presence of septic roots in the mouth. This can only be accomplished by a supply of more dentists, nurses and clinics.

Without more dentists, no more inspection or operative work can be undertaken; 3,000 children is laid down as sufficient to fully occupy a dentist during a school year. It must be borne in mind that making a child dentally fit at eight years, *will not keep that child so until it leaves school at thirteen or fourteen.*

More dentists are urgently required to work on older groups, say from eight to eleven and eleven to fourteen years. In order to make this plain, we, this year, got as many of last year's special group as could be obtained for re-examination and treatment.

The finding is that of 73 re-examined, 45 require further treatment. The first examination showed that out of 93 examined 59 required treatment. The 20 children not examined have either left school or were not available.

Practically all this work has been done. In addition to this, 42 leavers, that is children of 13 and 14 years, have just been inspected, and of these, only eight were passed as dentally fit, while 79 fillings and 33 extractions were required.

These figures speak for themselves as to the necessity for more dentists.

To sketch out an ideal Dental System for such an area as the Potteries, covering as it does some seven miles by four, containing 76 schools with a population of over 45,000 children and a low rateable value, is a very difficult matter especially in these times when economy is required.

We would suggest the immediate purchase of a School Travelling Outfit with facilities for transit from school to school.

After the inspections and appointments had been made visits would be paid to convenient schools where, in rooms set aside temporarily for the purpose, all treatments would be done.

Such an equipment would be equal to having several Centres or Clinics at the cost of one. Of course this must be looked upon as only a temporary measure, the work is far beyond the power of one man, and in addition to the proposed

Clinic at Longton another somewhere in Hanley or Shelton is necessary and we would strongly advise that steps be taken to secure such, and that working accommodation be provided in them for more dentists who will be appointed when such appointments are possible. A separate room is not required for each operator.

Details given above of the dental condition of leavers and re-examination of a nine to ten year group show the enormous amount of work which awaits doing for the school population.

On Board of Education figures given above, *i.e.*, 3,000 children per school year to each dentist, as many as fifteen with a corresponding number of nurses is indicated, which is, of course, at present, quite impossible, but we would strongly recommend as above with the appointment of two more Dental Officers.

As following up is at present impossible, a second nurse is required, as with her services many cases would be treated which are at present lost and much time in the Clinic would be more profitably employed as so much is wasted in waiting for unkept appointments.

H. H. CHAPMAN,

School Dental Officer.

*Note by School Medical Officer.*—The scheme of Dental Inspection and Dental Treatment described in the Annual Report of the Chief Medical Officer of the Board of Education, 1916, includes:—

- (1) Routine dental inspection of all children of the age group, 6—8.
- (2) The provision of dental treatment.
- (3) Re-examination at intervals of not more than a year of children who have received dental treatment.

Provision for inspection, whether dental or medical, of *all* children of the County Borough once a year is another matter and represents a "council of perfection" most would consider unattainable. The estimated number of children, however, of the 6—8 year age group, based on average attendance, amounts to 9,000, so that to carry out even this scheme, which is intended to represent the minimum, at least three Dental Officers would be required.



(i). *Crippling defects and orthopaedics.* The Health Department has an arrangement with the Cripples' Home, Hartshill, for the treatment of all tuberculous cases. The Cripples' Home is a voluntary institution under the management of the North Staffordshire Cripples' Aid Society. The question of entering into a similar arrangement between this Society and the Local Education Authority for the treatment of non-tuberculous crippled school children is being considered at the present time by a special sub-committee appointed for this purpose. It appears that the Society has about 600 of our children on the books of which about 60 per annum require hospital treatment. The number actually treated in hospital during the year was 31. The duration of hospital treatment being usually prolonged, it is important that provision be made for continuing the education of these children while at the Home, otherwise they will be seriously handicapped later in life.

### (9). Open Air Education.

(a). *Playground classes.* See Annual Report, 1919, p. 43, No. change to report.

(b). *School Journeys.* Nothing definite undertaken at present. Children attending schools within easy walking distance of the country are taken for nature study walks of about half an hour's duration at intervals.

(c). *School Camps.* Nothing undertaken as yet by the Local Education Authority. There are, however, a number of companies of Lads' Brigades and Boy Scouts who go into camp in the summer holidays.

(d). *Open Air Classrooms in Public Elementary Schools.* See Annual Report, 1919, p. 43 and sect. 18 "Nursery Schools" of present report.

(e). *Day Open Air Schools.* See Annual Report, 1919, p. 44. The scheme there described has been "held up" owing to the existing financial situation.

(f). *Residential Open Air School.* The Residential Open Air School at Hanchurch was opened for the admission of children on 1st September, 1919, the ceremonial opening, at which an address was given by Sir George Newmar, Principal Medical Officer of the Ministry of Health, taking place on the 15th of the following month. A detailed description of this school will be found in the Annual Report for that year, p. 42-43. It is intended to be a Residential School of Recovery. Cases of "open" tuberculosis are not eligible for admission. Accommodation has been provided for thirty children. The usual length of stay is three months, but there

is no rigid limit ; all cases are admitted and discharged at the discretion of the School Medical Officer. One of the Medical Officers visits the school once a month as a matter of routine. Additional special visits have been made from time to time at the request of the Matron. The School Dentist has visited the school four times during the year and carried out any dental treatment necessary. The number of children admitted during 1920 was 105. All of these were cases of pronounced malnutrition. The following is a list of the chief associated defects on admission and a statement of the condition on discharge :—

Associated defects on admission.			State on discharge.		
Seborrhœa	...	1 case.	Much improved, 1	...	
Blepharitis	...	2 cases.	Cured, 1.	Improved, 1	
Conjunctivitis	...	2 „	Cured, 2.	...	...
Phlyctenular disease	...	37 „	Cured, 36.	Improved 1	
Otorrhœa	...	3 „	Dry, 1.	Improved, 2	
Enlarged cervical gland (non-tubercular)	...	1 case.	Cured, 1	...	...
Organic heart disease		3 cases.	Worse, 1.	No improve- ment, 2	...
Functional heart	...	1 case.	Improved, 1		...
Anæmia	...	17 cases.	Cured, 17	...	...
Temporary “ mental dull- ness	...	2 „	Improved, 2	...	...
Mental instability		2 „	Improved, 1.		Unchanged, 1
Surgical tuberculosis (closed)	...	* 1 case.	Improved, 1	...	...

The after history of 29 of the cases of phlyctenular disease of the eyes has been investigated by Dr. Lawrie who reports that 19 show absolutely no indication of relapse. (See special article by Dr. Lawrie, “ Results obtained by treatment at a Residential Open Air School of Phlyctenular Diseases of the Eyes.” Sect. 22, p. 59). The gain in weight was very marked in all except two cases:—

No gain	...	2 cases.
Gained 1 to 4 lbs.	...	22 „
„ 5 to 9 lbs.	...	55 „
„ 10 to 14 lbs.	...	11 „
„ over 14 lbs.	...	4 „

The remaining eleven children could not be weighed for special reasons but all had undoubtedly gained.

All cases did exceedingly well except those with organic heart disease. One of these became so much worse that the parents were directed to take the child home.

It was found that nearly a fortnight had elapsed before a number of these malnourished children developed a healthy appetite. Considerable difficulty is also experienced at first in getting these cases to take the diet provided.

They have been accustomed to a form of diet, too prevalent in this district, consisting almost entirely of starches (carbohydrates) and greatly deficient as regards proteids and fats (more especially fats) and in the accessory food stuffs known as "vitamines."

This experience shows how very necessary it is to apply the physical, and not the poverty test exclusively, in the selection of children to be fed under the Education (Provision of Meals) Act, who are attending the Public Elementary Day Schools. Experience shows that directions given to parents as regards diet are seldom attended to, they simply say that the child will not eat what is prescribed, and they lack the necessary firmness to insist.

# (10). Report of the Organisers of Physical Training.

*Training of Teachers.* The year 1920 has been one of marked progress and activity. We are now far beyond the experimental stage and the subject is being envisaged from a wider angle. A high degree of unity of purpose has been established among Head and Assistant Teachers. The Teachers receive instruction at the special physical training classes held on various evenings during the week. The success of these classes has been one of the encouraging features of the year.

List of Classes held during 1920 :—

## PHYSICAL TRAINING—(WOMEN TEACHERS)

District	Date of Commencement	Duration of Course	Number entered
Tunstall ..	January 15th	11 weeks	30
Hanley ..	„ 12th	12 weeks	36
Fenton ..	„ 14th	11 weeks	36
Hanley ..	May 7th	8 weeks special short Games Course	42
Hanley ..	„ 10th	„ „	46
Hanley ..	„ 7th	„ „ (Infant Teachers)	35
Hanley ..	„ 10th	„ „	35
Hanley ..	October 5th	15 weeks (Infant Teachers)	35
Burslem ..	„ 5th	15 weeks	25
Fenton ..	„ 6th	15 weeks	35
Hanley ..	„ 8th	15 weeks	35

## (MEN TEACHERS)

Hanley ..	October 4th, 1919	15 weeks	8
Hanley ..	January 13th, 1920	11 weeks	8
Hanley ..	May 13th	8 weeks, special short Games Course	10
Hanley ..	October 5th	15 weeks	22

## FOLK DANCING CLASS—(WOMEN AND MEN)

Hanley ..	October 9th	20 weeks	27
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We should like to point out the great advantages which would accrue if the Committee could arrange for a Physical Training Course to be held in each centre during the latter 90 minutes of the afternoon session, two teachers being allowed to attend from each school in the vicinity. Also, that it would be of real value if the Committee would give special grants for Summer Holiday Courses in Physical Training to Teachers who have attended the Committee's Courses and have shown interest and enthusiasm.

*Effects of the Physical Training Lesson.* The 1919 Syllabus recently introduced, has done much to interest the Teachers in Physical Training. The development of the Physical Training Lesson, and of organised games, has led to increased *esprit de corps* throughout the schools, and has helped to promote more friendly relations between teachers and scholars. The short daily lesson in the open air is a deciding factor in enabling both to endure the strain of school life, while the value of the spirit of *camaradie* and mutual enjoyment resulting from physical training, including organised games, cannot be over estimated.

The advice given to head and assistant teachers during our visits to the schools has generally been followed. We have endeavoured to show the enormous advantages which will result, and are already resulting, from physical training. We emphasise how essential it is to encourage a spirit of enjoyment and enthusiasm during the lesson—to cultivate self-control, judgment and will power, rapidity of action and alertness, and to promote the spirit of leadership. With this last object in view *inter-class* competitions have become part of the weekly routine in many schools.

Observation of physical deformities has been made during the lessons and children singled out and recommended for treatment.

Freedom of movement being another of our objectives, attention has been given to the type of clothing worn. Many schools are providing the girls with tunics. Boys work in their shirts or sweaters.

*Shoes and Dress.* The Committee were satisfied that a certain amount of equipment was necessary for the carrying out of the physical training scheme as laid down in the Board's Syllabus, therefore, in April, they decided to purchase 3,000 pairs of rope-soled shoes for distribution to the girls' and boys' departments in the proportion of 10% of the accommodation. These shoes are a boon to both teachers and scholars during the physical training lesson, resulting in increased all round efficiency. Use has also been made of them when children



have arrived at school with wet feet. Every opportunity is taken by the teachers to encourage all children to provide their own shoes and suitable dress.

*Accommodation Schools.* The accommodation for physical training is steadily improving. Wherever possible, efforts have been made to supplement school accommodation by the hire of halls near schools where neither hall or class space is available, so that the physical training lesson should not be omitted during bad weather.

The Gymnasium at the Longton H. E. School has been put into repair, and the necessary alterations carried out. This will prove of decided benefit to the school.

The improvement and drainage of many of the playground surfaces during the year has led to increased facilities for outdoor work.

*Parks, open spaces, etc.* The Education Committee obtained in April permission for the children in Elementary Schools to use the Parks' Recreation Grounds and other open spaces in the County Borough for physical training and organised games. We drew up a scheme giving schools priority of claim to the Parks, etc., on certain days. All boys' and girls' departments now enjoy a period of at least 60 minutes each week at the Park nearest the school. Provision of Fields for Schools situated at a distance from the Parks is an urgent matter. In such cases the schools themselves are trying to obtain playing space nearer to the building. We hope the Committee will assist them in their efforts.

*Games Equipment.* In June the Committee considered the question of supplying Games Apparatus, and arranged for the purchase of 160 Footballs, 360 Tennis Balls and 180 lengths of Rope for distribution to all departments. This equipment is of great value to the schools and is much appreciated.

On June 28th, we arranged a Demonstration of Games suitable for indoor and outdoor play, in which teachers who were attending the Committee's Games Courses took part. A large number of teachers witnessed the display and showed great interest.

*Voluntary Agencies.* *Work bearing on Physical state of children.* We must not fail to mention the activities of voluntary agencies and their contribution to the physical welfare of the elementary school children. The efforts of such organizations to promote healthy recreation for the children *out of school hours* cannot fail to have a good effect both physical and



moral. The North Staffordshire Elementary Schools' Athletic Association is one worthy of recognition. The Committee of this Association is composed of school teachers and private individuals, co-operation between whom should be encouraged by every possible means. Although this organisation is carried on *out of school time*, the schools are directly benefited.

*Swimming.* Although physical training has recently been developed in the district, swimming has always been included in the school curriculum. The following figures show the progress made during the year:—

No. of Boys attended for instruction	No. of Boys taught to swim	No. of Boys gained Certificates	No. of Girls attended for instruction	No. of Girls taught to swim	No. of Girls gained Certificates
1952	1383	748	1000	413	151

The swimming facilities provided for girls are less than those for boys. The Bath at present being used for the girls in the Hanley district is totally inadequate. There is a large Bath for ladies in Hanley, but up to the present we have been unable to obtain the use of it for girls in the elementary schools, because it is reserved for fee paying bathers.

The Education Committee have recently arranged for children who have gained swimming certificates to use the Baths in the County Borough at a reduced charge. This privilege will be much appreciated and will lead to a higher standard of efficiency being gained during the next swimming season.

MARGARET FRASER,	} Organisers of Physical Training.
H. L. AUSTIN,	

## (II). Provision of Meals.

No alterations have been made in arrangements described in previous reports with the exception that the price per head paid to caterers has been increased from 3½d. to 5d.

**Comparative Table showing number of children  
fed during 1920 and previous years.**

Month		Year 1920	Year 1919	Year 1918	Year 1917	Year 1916	Year 1915	Year 1914
January	..	89	223	332	392	273	3043	879
February	..	95	227	321	434	308	3099	743
March	..	92	195	294	363	327	2883	685
April	..	110	217	284	432	293	2507	627
May	..	122	209	251	417	282	1525	660
June	..	132	197	251	425	280	1286	598
July	..	123	236	251	319	271	759	660
*August	..	124	128	229	378	256	386	3091
*September	..							
October	..	137	132	230	375	219	293	3057
November	..	260	107	195	353	306	285	2370
December	..	156	81	241	349	316	289	2420

\*School summer holidays during July and August.

This table indicates the immediate influence of the outbreak of war, the temporary improvement in industrial conditions following its cessation and the commencement of the existing unemployment wave.

### (12). School Baths.

There are at present no Baths provided at any except the Hanchurch Residential Open Air School. In the scheme prepared in terms of the Education Act, 1918, it is proposed in the first instance to provide baths of shower and slipper type in one central school of each district.

### (13). Co-operation of Parents.

The methods adopted for securing the presence of parents at the medical inspection have been described in previous reports.

The parents have co-operated fairly well in securing treatment for children needing it with the exception of the matter of procuring spectacles. Many seem to have a deeply rooted and almost invincible prejudice to their children wearing glasses.

#### (14). Co-operation of Teachers.

The part played by the Teachers in facilitating the work of medical inspection, following up and medical treatment of the children has been described fully in previous reports.

The success attending their efforts to secure a healthier "public opinion" on the matter of personal cleanliness has already been alluded to. The part played in the duty of ascertainment and treatment of mentally defective and mentally unstable children, as well as an account of the special efforts made by a head teacher to overcome the peculiar mental condition known as "introversion" in one of his pupils are described fully in a later section ("The Psychiatric Clinic," p. 25).

One has also received several communications from teachers during the year asking for appointments at the special departments of the School Clinics for individual children and for a visit of a School Nurse to their own departments.

The work of the eye and of the ear departments would be much facilitated if teachers would kindly see that the children attend punctually on the day and at the time appointed. The Medical Officers dealing with these departments complain that children are often sent on the wrong day and oftener so late that it is impossible to deal with them.

Lists of children absent from school on account of infectious disease are forwarded to me weekly by head teachers.

The number of cases of measles in each department of the schools is sent by me to the Medical Officer of Health every Saturday morning.

#### (15). Co-operation of School Attendance Officers.

The School Attendance Officers supply me with the names of children who, on account of mental or physical defect, are not on the School Registers, and with the names of any relatives of school age of patients admitted to the local mental hospital. They also send children to the Clinics on Friday afternoons who allege sickness as the reason for irregular school attendance but who fail to produce a medical certificate from a private practitioner or hospital.

A weekly medical report relating to all such children is handed to the Head Attendance Officer every Saturday morning, together with a list of children excluded and a list of those re-admitted to school by the Tuberculosis Medical Officer.

## (16). Co-operation of Voluntary Bodies.

There is no voluntary "Children's Care Committee" in the Area. Twenty-seven cases of parental neglect were brought to the notice of the National Society for the Prevention of Cruelty to Children. The Society prosecuted in three instances and has the remaining cases under observation.

Voluntary Bodies exist in the Hanley and Burslem Districts for providing Spectacles and Boots to poor children.

The numbers provided during the year were:—

Spectacles	...	66 pairs.
Boots	...	115 pairs

There are four voluntary hospitals in the Area. The number of children treated at these for defects found in the course of medical inspection was 240 .

A Local Voluntary Association for the Care of the Mentally Defective is badly needed in this area.

The Central Association in London is willing to give every assistance in organising Local Associations of this kind.

## (17). Blind, Deaf, Defective and Epileptic Children.

(a). *Blind*. There are 23 blind children belonging to the Borough who are resident at the following special schools:—

(1) At "The Mount," Stoke-on-Trent:—11 boys, 8 girls. Total, 19.

(2) At the R.C. Blind School, Liverpool:—2 boys, 1, girl. Total, 3.

(3) At Worcester College for the blind, 1 boy.

The number on the waiting list is one, a boy. One blind boy is an imbecile and has been notified to the Local Mental Deficiency Committee. The total number of children who are literally blind is therefore 25, sixteen boys and 9 girls. 36 additional cases, 12 boys and 24 girls have been certified by Dr. Lawrie as suitable for a special "sight saving class." No such class has been formed at present.

(b). *Deaf*. The numbers of deaf children resident at special schools are: --

(1) At "The Mount," Stoke-on-Trent.—13 boys, 18 girls. Total, 31.



(2) At the R. C. Deaf School, Boston Spa, Yorks.:—  
2 boys, 3 girls. Total, 5.

Two boys are on the waiting list. One deaf girl is an imbecile and has been notified to the Local Mental Deficiency Committee. The total number of children who are deaf in the strict sense of the word is, therefore, 39, of which 17 are boys and 22 are girls. Ten additional cases, 8 boys and 2 girls, have been notified by Dr. Swainson as fit for a special "hard of hearing class." No such class has been formed. The Blind and Deaf School known as "The Mount," is under the control of the North Staffordshire Joint School Authority, on which the Borough is represented. This school has its own Medical Officer.

(c). *Mentally Defective Children.* Classified numbers will be found in the special article "The Psychiatric Clinic," sect. 22. (a) p. , in which will also be found full details of means of ascertainment adopted. Five boys of feeble-minded grade were sent to the R.C. Special Residential School at Besford Court, Worcestershire. A preliminary plan had been drawn off the proposed Open Air Day School in Hanley Park which was to have contained a mental defective section. This, however, is one of the matters which have been "held up" owing to the financial situation and the plan has, therefore, not been submitted to the Board of Education. The question of renting certain premises for this purpose as a temporary expedient has since been discussed, but no action has been taken.

Special Educational provision for these children has been long overdue and its continued absence has been most discouraging. The presence of such children in our ordinary schools has had a bad influence on normal children and is a waste of public money, while to turn them out on the streets is to insure their getting into mischief.

(d). *Epileptic Children.* The total number of epileptic children, so far as ascertained at present, amounts to 40, of which 23 are boys and 17 are girls. Eight, four boys and four girls, have been notified to the Local Mental Deficiency Committee as ineducable, an additional eight, three boys and five girls are not attending school as it was found that such attendance greatly increased the severity and number of fits. One boy has been sent to a special Residential School, Starnthwaite, Westmorland.

#### (18). Nursery Schools.

A "Nursery Class," to accommodate 40 children of from three to five years of age, was opened on September 20th last.

The average number on the rolls is 40 and the attendance has been very regular.

It is administered in conjunction with St. Peter's R.C. Infants' School, Stoke Area, but the premises are entirely distinct. These consist of a classroom and cloakroom, the latter being supplied with portable lavatory basins and conveniences.

By kind permission of the Mother Prioress, the garden of the adjoining convent is used as a playground, where in warm weather games and nature study classes are also held.

Extensive window area of casement type has been provided and the windows are all kept open so that the classroom is practically an "open air" one. The existing method of heating is by a guarded closed cooking stove. Fortunately the winter has been exceptionally mild, but in ordinary winter time it will be impossible to maintain the open air character of this classroom without additional sources of artificial heat. It appears that three radiators have been on order for some time. It is hoped these will be fixed at the earliest possible date.

The importance of conducting Nursery Schools on open air lines was demonstrated in the annual report for 1919. It is only in this way that epidemics of infectious disease among children of an age of highest case mortality rate can be avoided.

Twenty beds have been provided, composed of sail cloth supported on wooden framework so constructed as to be easily taken to pieces for storage. The children have been taught to put these beds up and take them to pieces for themselves.

The hours of attendance are :—9 a.m. to 12 noon, and 2 p.m. to 4 p.m.

The curriculum is based on Montessori principles, but the head teacher, who appears to be a born child psychologist, has made numerous modifications in the details. "Montessori Outfits" are not used at all.

Each child has its own cloakroom peg, pinafore, tooth brush, towel, blanket, pillow, mug, plate and spare pair of shoes. All these articles are clearly marked with a symbol, the same symbol being marked on each article belonging to the same child. These symbols are very simple and vary from a cricket bat to a jam pot. All children know their own symbols and have been taught to fetch and put away their own articles in the proper places.

Toothbrush drill, handkerchief drill and breathing exercises form part of the daily routine.

The children bring pieces of bread and butter or pieces of cake from home for lunch and are provided with a mug of milk



at the school for which the parents pay one penny. Lunch is served at 11 a.m. Table cloths are provided and the tables properly laid by the children who also clear away, the washing up being done by some of the older ones. Mid day dinner is not provided at the school at present although this is highly desirable. Some of the children who come from far, however, bring their dinners with them. These are warmed up by the teachers who also supervise the meal. Older sisters from the senior school join the little ones.

No bath has been fixed at present, but a zinc tub and large kettle for obtaining a supply of hot water is available.

The "rest hour" is from 2 p.m. to 3 p.m.

Twenty beds only have been provided at present and the remaining children lie on Japanese mats on the floor. Pillows are used but this arrangement is not satisfactory. The full complement of 40 beds should be provided.

The addition of combs and the introduction of routine daily "hair combing drill" is a very necessary object lesson in practical hygiene for the girls of this district. The formation of a "hair combing habit" would then be added to the existing number of good habits built up at this school and which will undoubtedly have a very far reaching effect on the subsequent development and health of these children.

Habits formed at this early, impressionable age always tend to become "mechanized," in other words, "to stick."

All the children have been medically inspected, one has since had an operation for adenoids, while another is under the personal medical supervision of Dr. Lawrie for squint.

One was greatly struck, on visiting this school a short time ago, with the well nourished, healthy, happy and *alert* appearance of these children compared with their general appearance on the "opening day," last September.

The influence of the Nursery School on the formation of habits is by no means confined to hygienic habits.

As stated in a later section (psychiatric clinic, p. 47), one has had reason to be of opinion that juvenile delinquency may be due to innate cerebral defect in some cases, but in others is due mostly to the absence of "ideals" and the earlier lofty "ideals" are placed before a child, the more potent and more lasting will be their influence on conduct.

The influence of the healthy, physical and moral environment of the Nursery School must, therefore, have a very far

reaching effect on the subsequent physical and moral welfare of the child. Some of the psychoanalyst school go so far as to maintain that the influence of early infantile impressions from birth to the age of five years on subsequent mental "make up" is the only influence of importance, and that the hereditary factor may be disregarded. (1)

This is clearly an exaggeration, there being abundant evidence pointing to the existence of mental instability, set up through vitiation of ancestral germ plasma affecting the neuronie determinant, but that early infantile impressions do exert a very great influence there can be no doubt.

As stated in the Annual Report for 1919, it had been decided to establish an Open Air Nursery School in the Hanley area to accommodate 100 children and the scheme prepared in terms of the Education Act, 1918, contemplates the provision of others "in certain selected areas."

#### (19). Secondary Schools.

The scheme formulated to carry out the requirements of the Education Act, 1918, with regard to routine medical inspection in secondary schools has been unavoidably "held up" owing to the financial situation.

A supply of the special medical inspection schedules of the Board of Education has been obtained and arrangements almost completed with regard to the provision of suitable rooms. The appointment of an additional Assistant School Medical Officer is, however, essential before an actual start can be made.

The only other alternative would have been to curtail seriously the work of routine medical inspection in Elementary Schools as well as the work carried out at the School Clinics, and this was considered very inadvisable.

An account of the medical inspection of exhibitioners will be found in the section marked "Miscellaneous" (number 23 of the present report).

One girl was examined at the Psychiatric Clinic.

The reasons why routine medical inspection of scholars attending secondary schools is so necessary were given in detail in my Annual Report for 1918, pp. 81-86.

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(1) Such appears to be the view expressed in Ch. VI "The Child's Unconscious Mind" Lay.

(20). Continuation Schools.

So far, none have been established.

(21). Employment of Children and Young Persons.

The scheme in connection with the administration of the Education (Choice of Employment) Act, 1910, has not yet been approved by the Board of Education and, consequently, no Juvenile Employment Committee has been formed.

The Bye-Laws under the Employment of Children Act, 1903, and the Education Act, 1918, were put into operation on 1st December, 1920.

The number of applicants for "employment cards" from the 1st to the 31st December, was 608.

A medical certificate that "the proposed form of employment would not be prejudicial to the child's health or physical development or render the child unfit to obtain proper benefit from education" was given in 417 instances, of which 388 were boys and 29 were girls, and withheld in 11, or 2·6 per cent., 10 of these being boys and one a girl.

The number of cases still to be dealt with at the end of the year amounted therefore, to 180.

A tabular statement of defects found in the case of eleven children refused certificates is appended:—

Defects found	Boys	Girls	Total
Malnutrition ... ..	5	—	5
Chronic bronchitis ... ..	1	—	1
Chronic laryngitis ... ..	1	—	1
Heart disease, organic ... ..	1	—	1
„ „ functional ... ..	2	—	2
Anæmia ... ..	3	1	4
Tuberculous hip ... ..	1	—	1

The following is a statement showing the nature of the proposed employment in the case of those granted medical certificates of fitness :—

Proposed employment			Boys	Girls	Total
Newspaper delivery ...	...	...	152	10	162
Meat ...	...	...	11	—	11
Milk ...	...	...	12	10	22
Coal ...	...	...	13	—	13
Bread ...	...	...	5	—	5
Groceries ...	...	...	18	—	18
Fish ...	...	...	2	—	2
Errands ...	...	...	173	3	176
Hay chopping ...	...	...	1	—	1
To assist caretaker ...	...	...	1	1	2
Assist in shop ...	...	...	—	1	1
Domestic duties ...	...	...	—	4	4
Totals ...			388	29	417

In addition to these numbers, 37 girls were examined who were engaged at the local theatre for the Christmas pantomime. One had a few nits in the hair, subsequently cleaned up, one was referred for dental treatment and two for defective vision. while one was placed under observation for a small goitre. The children simply revel in this form of employment. Whether their histrionic zeal exercised any prejudicial effect on school progress, I do not know, but the effect on general health, nutrition and general appearance, was most distinctly beneficial.

## (22). Special Inquiries and Special Articles.

### (a). "THE PSYCHIATRIC CLINIC."

By Robert Hughes, M.B., School Medical Officer.

The original functions of this Clinic have been described fully in previous Annual Reports. During the present year its scope has been further extended to include :—

(1) Medico-psychological examination of Juvenile Delinquents referred by the local Justices.

(2) An attempt to bring the subjects of mental deficiency and mental disease within the scope of preventive medicine.

Owing to accumulation of work during one's four years absence, much time has had to be devoted, this year, to "ascertainment." Reduction of arrears will no doubt gradually render more time available for other purposes, but I am convinced the many activities of this Clinic cannot be carried on efficiently by one who has also to attend to the administration of a whole school medical department of a scale demanded by a County Borough of upwards of a quarter of a million inhabitants. Personally, one has always been of opinion that a specially qualified medical practitioner should be appointed in every area to act as "Mental Specialist" both to the Local Mental Deficiency Committee and to the Local Educational Authority.

### "ASCERTAINMENT."

(Defective and Epileptic Children Acts and Mental Deficiency Act.)

*Information supplied by Head Teachers :—*

(a). *Annual Returns.* In order that directions might be as simple as possible, all that has been asked for hitherto has been the names of all children retarded two years, three years, or more, according to age and standard.

#### SUMMARY.

		Boys.	Girls.	Total.
Retarded two years	...	399	368	767
„ three years	...	147	145	292
		<hr/>	<hr/>	<hr/>
Total	...	546	513	1059

The great differences in the numbers in relation to school population given by School Medical Officers in their Annual Reports show how unreliable such figures are, and if they indicate anything at all, are probably an index of the relative



numbers promoted according to age to the numbers promoted on account of ability, rather than an estimate of the relative numbers of children really backward.

The facts that one has found almost as many children, undoubtedly mentally defective, among the two year retards as among the three, and no less than 19 mentally defective children whose names do not appear on these returns at all, show how very unreliable they are, even for the purpose of "ascertainment," and still more so as an index of the number who are merely "backward."

The chief causes of their unreliability appear to be :—

(1) The adoption of the standard or class a child may happen to be in on grounds other than educational as the basis of calculation in lieu of the standard or class corresponding to the child's real educational attainments.

(2) Regarding standard one as the minimum in the case of senior departments. A child actually in standard one whose real educational attainments do not exceed those of the average child in the lowest class of an Infants' Department, has therefore sometimes not been included.

(3) Lack of uniformity as to organisation. In some instances a larger number of "classes" appear to take the place of "standards."

(4) Exclusion from the lists of children whose backwardness is considered to be due to causes other than defective general educational ability.

(5) Grading on the basis of a specific attainment rather than on general attainment.

(6) The mistaken idea that the disclosure of a number of backward children will tend to bring discredit to the teacher.

It is by no means suggested that all returns are unreliable, some even bear abundant evidence of the amount of time and trouble that must have been expended on them and contain a mass of most useful information in addition to the minimum asked for. The number of instances, however, in which one or more of these causes have been operative has been enough to produce the following general results :—

(1) A serious under estimation of the total number of retarded children.

(2) A general under estimation of years of retardation.

(3) A tendency to restrict returns to older children.

What is required is some simple and universal standard on which to base measurements of retardation.

The most obvious is "educational age." This involves nothing more than the expression of the opinion of the Head Teacher as to the child's actual educational attainments and a simple calculation.

It seems to be accepted generally that a child of seven years of age should be in standard one, a child of eight in standard two, and so on.

Consequently, if in the opinion of the Head Teacher the educational attainments of a child of ten are only equal to those of the majority of children of standard one, that child's "educational age" is seven years. (1)

Retardation in terms of age and standard is then obtained by subtracting educational age from chronological age.

However, as variation expressed in these terms increases with age, so that a child of six retarded two years will be retarded rather more than three years at the age of ten and four years at the age of twelve, what is really required is some way of expressing degrees of educational backwardness irrespective of age.

An exceedingly simple one is the use of the "educational quotient." This is obtained by dividing the educational age by the chronological age instead of subtracting it.

Decimals can be omitted and the ratio converted into a percentage ratio while age at nearest birthday can be taken as representing chronological age with sufficient accuracy.

This method is, of course, only applicable to a rough preliminary survey, but then that is all these returns can be expected to represent. For more accurate purposes it may be necessary to substitute another method altogether. (2)

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(1) One is quite aware that seven years does not represent the actual arithmetic mean of the ages of all children in a typical standard one. It does however, represent the "mode," or age most frequently found, and is sufficiently accurate for our present purpose.

(2) For example, Burt subdivides standards, adopts the fractional arithmetic mean of a given age group as zero and the standard deviation as unit. He finds that the latter amounts to approximately one tenth of the chronological age. It is hardly necessary to add that "standard deviation" is a mathematical term and has nothing whatever to do with "school standards,"

It is proposed to send a copy of the following form to Head Teachers for the purpose of making these annual returns (3):—

Name	Age in years and months	In standard (or class)	Fit for standard (or class)	Remarks

The chronological age has not been asked for hitherto but was supplied in 327 instances.

**Educational Quotients (E.Q.'s) of 327 retarded children calculated from data contained in Head Teachers' returns.**

Educational Quotients. (E.Q.'s)	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Total
Number of children	5	5	50	137	130	—	327

This table is inserted for the purpose of illustration. No conclusions can be drawn from it for reasons already stated. One would like to take this opportunity of pointing out to Head Teachers that these inquiries are being made for the purpose of making provision for a number of children forming a recognised part of the national educational problem and that their disclosure cannot bring any discredit to the teaching profession or to individual teachers.

It is recognised that the distribution of general educational ability follows approximately "the normal curve of distribution" and the same law appears to hold good as regards the distribution of general intelligence. (4)

The existence of a number of dunces at one end of a series is therefore, as inevitable as the existence of a number of brilliant children at the other, while a larger number will show a "central tendency" and tend to approach the average.

(3) I am indebted to my friend, Mr. Wood, Head Teacher of Penkhull Senior School, for this suggested form.

(4) Burt. "Distribution and Relations of Educational Abilities," Fig. 7 between pp. 42 and 43. Ballard "Mental Tests." Ch. "Distribution and Dispersion" Terman. "The Measurement of Intelligence" graph on p. 66.

There are, moreover, at least a dozen causes of backwardness other than bad teaching.

(b). INFORMATION SUPPLIED ON FORM 41 D E.

After selecting a certain number of children for examination on a given day, a notice is sent to the school requesting the Head Teacher to supply details included in the above named Board of Education Form and to try and secure the attendance of a parent at the examination. The parent has attended in nearly every instance. One has always made it a rule to include extracts from information supplied by teachers as well as from information supplied by parents under heading VII, "Information as to Mental Condition supplied by others" on Form 306 M., the Medical Officer's (Board of Education) form of "Report on Child examined for Mental Deficiency."

In most instances information supplied on form 41 D.E. has been too indefinite for this purpose.

Whenever one has been able to interview a teacher one has had no difficulty in obtaining any information required. The fault, therefore, would appear to lie with the form.

This form is unsatisfactory in many ways. It directs the avoidance of general terms such as "fair" or "moderate" but gives no further directions whatever and provides a space of only 10 inches by 6/16ths of an inch under each heading in which to state "what the scholar can do."

One would suggest the adoption of some definite scale of marking such as that given in Table XVII p. 49 of Burt's "Distribution and Relations of Educational Abilities." This is very simple and consists of a scale of consecutive numbers from zero to 20, the number 10 being taken to indicate medium or average ability. More recently some Head Teachers have made use of this scale at my suggestion and results have been very satisfactory.

In former years a special educational examination of each child was conducted by Mr. Williamson, but his promotion to the dignity of Director of Education has left no time available for this purpose.

"THE MEDICO PSYCHOLOGICAL EXAMINATION."

This not intended to consist of a series of checks on recorded observations of teachers but as an extension of the inquiry into matters which concern the medical practitioner and more especially the medico-psychologist.

The fact as to whether a given child is, or is not receiving "proper benefit from instruction in an ordinary school"



should have been established already, for this is a matter on which the teacher should be more competent to express a reliable opinion than the doctor, the points to be now ascertained are:—

(1) Is this failure to progress at school due to intrinsic or to extrinsic causes?

(2) Is it due to physical or mental causes?

(3) If to mental causes, what is their nature and degree and to what extent does each contribute?

(4) Are such causes temporary and removable or must they be regarded as permanent?

(5) Are there any aggravating but removable physical causes tending to make the mental condition appear much worse than it really is?

(6) Is the child's mental condition likely to become worse, to remain stationary or to improve?

Medico-psychology is such a highly technical subject that it would be out of place to enter into minute details in a report of this kind. A general outline, some criticisms on the Binet-Simon system of measuring intelligence, a subject in which some of our teachers are greatly interested, and the addition of a few explanatory notes to make one's remarks intelligible, are all one proposes to attempt.

### **Summary of information supplied by parents.**

It is almost impossible to exaggerate the importance of securing reliable information as to family and previous history, home environment (and this is by no means to be restricted to "present environment,") early infantile impressions, any emotional experience remembered by the mother but forgotten (repressed) by the child, conduct in the home, both present and past, attitude to parents, brothers and sisters, and a number of other matters.

Cases of mental deficiency may be divided into two main classes, primary amentia and secondary amentia, according to whether produced by intrinsic or extrinsic causes.

Intrinsic causes are those which tend to produce a pathological condition of the germ plasma and which, in this sense, may be termed "hereditary" while extrinsic causes are those factors of environment which exert a prejudicial influence over the development of the organism from the time of conception until shortly after birth. (5)

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(5) Tredgold "Mental Deficiency," third edition, Ch. III.



The ascertained numbers were :—

Primary amentia—167, or 91 per cent. of all cases of amentia.

Secondary amentia—16, or 9 per cent. of all cases of amentia.

The existence of the following intrinsic causes was found to have been in operation either alone or in combination.

Definite psychopathic inheritance—101, or 60 per cent. of primary cases.

Alcoholism (ancestral)—23 or 14 (nearly) per cent. of primary cases.

Tuberculosis (ancestral)—26 or 15 (nearly) per cent. of primary cases.

The figures now obtained support conclusions drawn in previous reports. (6)

The chief facts brought out are :—

(1) The percentage of instances of "certified insanity" appearing in the direct line is greater in the grand-parents than in the parents' generation.

(2) In the case of the factor "feeble-mindedness" the reverse holds good.

(3) Among collaterals the factor "certified insanity" holds the more prominent position in the parents' generation.

The following is a list of "aggravating causes" :—

Child weakly from birth, bottle fed and suffered continually from infantile diarrhoea—14. 8 per cent. primary cases.

Premature birth—16. 10 per cent. (nearly).

Inter-uterine injury (fractured thigh)—1.

Epilepsy (excluding 2 cases of secondary amentia)—13.

Mother suffered from plumbism within 12 months of birth of child—2.

Unfavourable conditions of mother during gestation period—22. 13 per cent.

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(6) Annual Report, 1914. Table between pages 38 and 39. Special Report, Feeble-minded and Epileptic Children, Stoke-on-Trent, with special reference to Recommendations of the Royal Commission on Care and Control of the Feeble-minded, 1912.

Child, illegitimate—8.

Congenital syphilis—1.

Repressed infantile emotional experience—1.

This last named child gave an "educational quotient" of 53 and an "intelligence quotient" of 64; has always had a great aversion to school and to teachers, underwent slight surgical operation at the age of three; wound suppurated and child screamed loudly at the sight of the doctor whenever he came to superintend change of dressings. The probability of this bring an instance of "positive transference" is obviously great. The child remembers absolutely nothing of this experience. It is doubtful, considering his limited intelligence, whether any attempts to recall it to the child's conscious memory would be successful.

Appended is a list of ascertained causes to which 16 cases of secondary amentia have been attributed:—

Polio-encephalitis	...	...	2
Cerebral diplegia	...	...	2
Infantile hemiplegia	...	...	3
Epidemic cerebro-spinal meningitis			1
Congenital syphilis	...	...	1
Epilepsy	...	...	2
Diphtheria	...	...	1
Cretinism	...	...	4

### Physical Conditions.

The following is a list of physical defects found of sufficient gravity as to materially affect educational progress—

Paralysis	...	5	Malnutrition	...	14
Epilepsy	...	15	Tuberculosis, pulmonary		2
"Hard of hearing"	12		„ non-pulmonary		4
Otorrhœa	...	5	Congenital syphilis	...	2
Defective vision	22		Heart disease	...	1
Squint	...	6	Adenoids	...	7
External eye disease	4		Chronic bronchitis	...	2
Old ununited fracture of tibia rendering leg useless,	1				

These figures refer to all cases examined at Psychiatric Clinic whether found to be mentally defective or not. Lack of time has prevented a systematic "following up" of many of these cases. Those referred to the ear or eye specialists were placed on the "following up" lists of these officers. In lieu a definite tabular statement, therefore, one is appending an account of a few selected cases.

One child had anterior polar cataract, the left eye being quite amblyopic, another case of defective vision showed Fuch's coloboma.

Among ear cases, the following are fairly typical :—

(1) "Left M.T. badly damaged, perforation, membrane partially adherent, right fairly sound, no discharge."

(2) "But for mental condition almost fit for deaf school."

The following illustrates effects of treatment :—

"Otorrhœa cured, hearing much improved, R. retracted M.T., no scar seen, no sign of discharge, L.M.T. the same, blood clot but no hole, no very serious defect of hearing now."

These last are extracts from Dr. Swainson's reports.

Two of the malnutrition cases were sent to the Hanchurch Residential Open Air School for three months. Both are much improved and are now progressing at school.

### Mental Conditions.

The old psychological theories of "independent faculties" and of the three levels "sensitivity", "association," and "dissociation" appear to have given place to the recent theory of "general and specific factors."

According to this theory there exists a "General Common Factor" on which all other factors partly depend as well as general specific factors. These may be regarded as almost independant except in so far as all depend upon the "General Common Factor" These, in their turn bear the same relationship to other and minor specific factors. (7)

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(7) For example, Burt distinguishes between "general educational ability" dependant, in its turn and to the extent indicated above, on the General Common Factor, and four minor specific abilities, arithmetical, manual, linguistic and literary. "Distribution and Relations of Educational abilities," p. 93.

It would appear that the General Common Factor is not altogether synonymous with the popular conception of "general intelligence" (8). Spearman and Hart regard it as a general fund of "intellective energy," while among the more popular terms "general all round mental ability" describes it fairly well.

One frequently meets with children who, as regards general all round mental ability, differ but little if at all from average children of their own age, but who, as regards ability to read or to calculate or both, are veritable dunces. (9)

The question arises:—Are such children to be considered as being "mentally defective?"

In the sense that they are "incapable of receiving proper benefit from instruction in an ordinary school" owing to deficiency as regards specific mental factors, it seems to me quite clear that they come within the four corners of the legal definition of "mentally defective" as applied to "children" and I take the word "permanently" (Mental Deficiency Act, 1913) to signify "so long as they are legally 'children.'" In the Defective and Epileptic Children Acts, 1899-1914, this word does not occur at all.

Miss Lucy Fildes, of Cambridge, appears to have recently discovered that many of these cases can be instructed successfully by the use of special methods, the particular method suitable to individual children being ascertained by psychological examination. A detailed account of her work has not yet been published. As soon as children of this description become "persons" in the legal sense it is quite obvious they are by no means mentally defective within the meaning of the definition as applied to "persons."

The fact is, the definitions as applied to "children," are far more comprehensive. These deal with educability while the latter deals with ability to manage self and affairs without external "care, supervision and control."

It is important to remember this distinction between the two legal definitions when examining "defective children" "on or before attaining the age of 16 years" under Part I, sec. (2,) (b) Mental Deficiency Act, 1913, with a view to notification to the Local Mental Deficiency Committee, such "children" being about to become "persons."

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(8) Spearman and Hart. *British Journal of Psychology* V. I. "General Ability." These writers state:—"The popular general intelligence" is being resolved into two parts, the one is, indeed, a deep underlying truth, the General Factor, but the other is a superimposed mass of obscurity and error."

(9) Distinction must, of course, be made between "abilities" and actual "attainments."

(10) Tredgold, "Mental Deficiency" (third edition, p.p. 8 and 9.)



In order to estimate degrees of "all-round mental ability" the tests employed must be sufficiently numerous and sufficiently heterogeneous to cover a wide field of observation but at the same time the examination should not be too long, otherwise the element of fatigue will become a very disturbing factor.

One has experimented with various tests, mostly of the Binet-Simon or "age scale" variety. Up to this last year one used the Goddard revision almost entirely, while this year one has used the Stanford revision. (11)

In the case of obviously low grade children one has been content with certain tests described in previous reports devised for use with the Montessori outfit.

The Stanford revision of the Binet tests appears to me to be superior to the Goddard revision in some respects, while in others, I prefer the latter.

The superiority of the former consists of the improved age location of many of the tests, the re-arrangement of "comprehension tests" under different ages according to degrees of difficulty in lieu of placing them all under one age, the addition of certain tests, such as the "ball and field test" and the extension of the whole scale to the age period of eighteen years, but most of all, on account of the minuteness of the directions regarding the mode of application of individual tests and methods of scoring contained in Terman's "Measurement of Intelligence."

The expression of final results in terms of "intelligence quotients," as suggested by Stern, in lieu of expressing them in terms of years of mental retardation is also a great improvement. The intelligence quotient is obtained by dividing the mental age by the chronological age and disregarding decimals.

The inferiority of the Stanford revision consists of the re-introduction of certain tests involving reading, writing and calculation, in short, knowledge gained as a direct result of school training.

One can only measure "general intelligence" by observing its effects as one measures temperature by observing its effects on a graduated column of mercury, but one wishes, so far as this is possible, to measure it by observations of acquirements gained as a result of natural mental growth and as a result of

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(11) More recently one has also made use of the Porteus Maze tests. These appear to be of considerable service in investigating conditions of temperamental instability but one's experience of their use is too recent and too restricted to enable one to express an opinion as to their real value at present.



the child's own spontaneous attention, observation and retentiveness and so form some sort of opinion as to the degree of development of the child's native intelligence apart from educational attainments.

There are additional drawbacks common to all "age scale methods," these are:

(1) The child is given for too much to *say* and far too little to *do*.

(2) The assumption that "differences in the amount of native intelligence possessed by different persons can be measured in terms of differences in the degree of development of intelligence possessed by the same persons at different years of their life (12) and that, consequently, intelligence can be measured in terms of mental age is only approximately true.

(3) The disturbing influence of local dialects.

With regard to the first, Burt points out the paradox of employing a series of tests of which the majority involve verbal answers only and including among them the question: "Why should you judge a person by what he does rather than by what he says?"

With regard to the second, the question as to whether the mentally deficient must be regarded as a distinct pathological group or as merely forming the tail end of a continuous series is still a matter of individual opinion. Personally, I think there is a rapidly accumulating mass of evidence in favour of the former supposition, but apart from all this, most people who have any practical experience of the mentally defective will, I think, agree that a feeble-minded person of 18 years of age giving a mental age of seven years differs in many respects as regards general mental ability from a normal child of seven. As Burt points out "integrity" as well as "maturity" of intellectual development must be taken into account.

The local dialect difficulty I have sometimes found to be a serious one. There is no harm in substituting the word "bank" for "hill" or of using the second person singular in lieu of the second person plural, but when material alteration of the set form of words in which a test should be applied is involved, it disturbs standardization to such a degree as to upset the whole scale. The question arises continually when using these tests: Does this child understand what I want him to do or say *when asked in these*

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(12) Quoted from Burt *Eugenics Review*, VI, 1, p. 38. Burt's two papers contained in this and the following number of this Review on "Measurement of Intelligence by the Binet tests" are probably the finest criticism on the Binet system that has ever been written. A certain number of the drawbacks he points out have been remedied in the Stanford revision.

words ? A number of tests can be made far easier by wording the question differently.

With all its drawbacks, however, the Stanford revision is probably more satisfactory on the whole than any other age scale method, and provided the examiner appreciates the psychological significance of individual tests, at least in a general way, and regards the whole scale more as an aid to the diagnosis of mental deficiency than as an accurate method of measuring intelligence, its *intelligent* application will not lead him far astray, provided temperamental conditions are also investigated.

Appended is a tabular statement of "intelligence quotients" of 313 children examined. Most of these were examined for supposed mental deficiency, but the figures also include some examined on account of temperamental instability and others as being relatives of school age of admissions to the local Mental Hospital.

#### INTELLIGENCE QUOTIENTS (I.Q.'s) of 313 CHILDREN EXAMINED AT THE PSYCHIATRIC CLINIC.

Intelligence Quotients (I.Q.'s)	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	100 and up- wards	Total
Number of Children	3	13	42	81	78	60	27	9	313

No conclusions can, of course, be drawn from these figures as to the distribution of intelligence among the general school population.

With regard to temperamental stability, a number of facts will have been already brought to light in the course of investigations described.

Tredgold divides defectives into two groups :— (13)

- (1) Those of stable mental equilibrium.
- (2) Those of unstable mental equilibrium.

Speaking broadly, it may be stated that temperamental instability, defective intelligence and defective educational ability may each of them occur either alone or in combination

(13) "Mental Deficiency," Tredgold, 3rd edition, p.p. 180—192.

as the outcome of variations existing from birth. Temperamental instability may also be acquired, and moreover, may exist as a temporary condition.

A marked degree of innate temperamental instability often becomes the deciding factor in diagnosis in the case of those children whose general intelligence and educational ability might be considered as of "borderland" or even of slightly higher level than that. This affords an admirable instance, constantly insisted upon in one's previous reports, of the necessity of basing diagnosis on results obtained from the medico-psychological examination *as a whole* and not merely on results obtained through the use of the Binet-Simon intelligence measuring scale.

Many adults showing intelligence quotients of 80 or above are so unstable temperamentally as to require "care, supervision and control for their own protection or for the protection of others" and are, therefore, certifiable as "feeble-minded persons" within the meaning of the definition contained in the Mental Deficiency Act, 1913.

In the case of children, however, it seems to me that, however great the degree of temperamental instability may be so long as they have sufficient intelligence and educational ability to benefit by the "instruction given in an ordinary school" they cannot be regarded as falling within the definitions of "defective" or "feeble-minded" *children* contained either in the Defective and Epileptic Children Acts or the Mental Deficiency Act.

One has, therefore, often experienced considerable difficulty in determining what advice to give as to the disposal of such children.

Even if they could be certified as "defectives" they are not suitable cases for a special *day* school. What is required is a special residential school.

A certain number of children of feeble-minded grade may, under certain circumstances, become "subject to be dealt with" under the Mental Deficiency Act, 1913, and then can be placed in an institution provided by the Local Mental Deficiency Committee.

In our own case, certain children have been disposed of in that way and are now at the "The Cloughs," where, I am informed, they are being supplied with educational facilities. Such a method of disposal is, however, only applicable to children incapable of "receiving proper benefit from instruction in an ordinary school."

In rare and extreme instances some may be regarded as "moral imbeciles" and disposed of as such. This method was adopted in one instance as much for the protection of the child himself as for the protection of others; his extraordinary conduct having aroused such a storm of resentment in the neighbourhood that "reprisals" of a startling character appeared highly likely. This boy gave an Educational Quotient of 100 and an Intelligence Quotient of 91.

It is inadvisable to give details of this particular case as he would certainly be recognised; but a short summary of the notes from a few other cases are appended by way of illustration. Technical terms have been avoided as much as possible.

*Case 1* — Age 12, Boy. Educational quotient 83, intelligence quotient 88. Well marked psychopathic family history. Both grandfathers deserted wives, father a violent alcoholic epileptic, now in mental hospital, paternal uncle also epileptic. maternal grandmother died of phthisis. Irregular school attendance. At times takes interest in school work, at others is dull and depressed and says he wants to go home. Was thin and malnourished and therefore sent for three months to Hanchurch Residential Open Air School. On day of admission refused food all day, escaped that night and walked home, a distance of four miles; brought back next day, liable to sudden and unaccountable attacks of violent temper, constantly bullies younger children, also liable to fits of sulkiness when he looks vacant and refuses food. Is one of the best swimmers at his school.

*Case 2.* Boy, age 11. Educational quotient 91, intelligence quotient 110. Paternal great uncle an epileptic imbecile, maternal grandfather said to have been exceptionally well educated, but had a habit of deserting his wife and family for years at a time, later became alcoholic. Brother very backward at school. Mother states that boy is "excessively frivolous," "laughs at the most serious things;" for this reason has "never been able to teach him any religion." Entered Infants' School at four, at once exhibited habit of wandering off from home alone to outlying places miles away. wandering habits improved for a time but afterwards resumed, gives most absurd and contradictory statements as to where he has been and why he wandered off. Recently forced the front door of his own house during the mother's absence, took his Sunday clothes away and pawned them, wandered off to a place ten miles away and was out all night. At times goes into violent passions when he loses all control and throws things about. Shows many mannerisms, constantly rubbing back of head, laughs and grins in a silly manner, teeth grinds at night, usually dreams of "adventure." Does not care to mix much with other boys, favourite occupation going for long walks alone and taking dinner with him, but answers questions readily, in fact is very talkative.



*Case 3.* Girl, age 12. At a Secondary School. Intelligence quotient 83. Paternal uncle convicted of embezzlement, father and grandfather described as "intensely religious," had operation for adenoids at four years of age, at seven, thought to have phthisis, health now fairly good but is excitable and emotional, appears incapable of sustained attention, constantly thieving, uses clever tricks to conceal her thefts, and is described as "an accomplished liar." Burst out crying when questioned about her misdeeds but began to laugh immediately on being told a funny story, abnormally susceptible to suggestion as shown by "length of lines test" and by the adoption of suggested absurd answers to questions, *e.g.*, that "pork is got from a duck." School work not up to secondary school standard, about equal to St. V. of elementary school. Does not know why she steals, usually hides what she takes or gives it away.

A detailed psychological explanation of these cases is too technical for insertion, the chief characteristics presented, however, were undue intensity of certain innate, animal impulses, great indefiniteness as regards ideals such as give consistency and reason to the conduct of normals, a consequent lack of self control and tendency to automatism.

These ideals enter the formation of certain "controlling sentiments." Four are commonly recognised, the intellectual, the æsthetic, the moral and the religious. A discussion as to their origin would be out of place. It is as well, however, to point out that there is no such thing as an innately fully developed "moral sense" enabling one to distinguish infallibility between the rightness or wrongness of specific acts. Discrimination of right from wrong in the case of the child is potential and not actual. He has to be taught the very meaning of the words. There is, however, a "something" within him which responds in such a manner that *when once certain primary moral principles have been pointed out to him* he would not believe the contrary even if told just as when once certain speculative principles, such as the whole is always greater than its part have been pointed out he would not believe the contrary either. The morality of specific acts is, however, clearly a matter for the exercise of judgment.

An admirable exposition of the origin of primary moral judgments will be found in Ch. VIII, "Moral Philosophy" Rickaby.

Tredgold gives as a result of his extensive experience (14) that mental instability accompanies mental deficiency probably in the majority of cases but that the instability may

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(14) "Mental Deficiency," Tredgold, 3rd edition, p. 189.



not become evident until the physiological epochs of puberty or adolescence have been reached.

This influence of the physiological crises accounts, no doubt, for the reversed proportion shown by the figures of the present investigation which concerns the school population only.

The following is a tabular statement of the numbers assigned to each group:—

Definitely defective <i>i.e.</i> showing also defective intelligence and defective educational ability	{	Stable type ...	101
		Unstable type ...	82

Temperamental instability, apparently congenital, with little or no apparent defect of intelligence or of educa- tional ability	...	...	22
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Total cases of temperamental instability	...	101
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#### CLASSIFICATION OF CASES OF AMENTIA.

Diagnosis			Boys	Girls	Total
Feeble-minded	...	...	78	60	138
Borderland between feeble-minded and imbecile grade (under observation)...			5	3	8
Imbeciles	...	...	24	7	31
Idiots	...	...	4	1	5
Moral imbecile	...	...	1	—	1
Total	...	...	112	71	183

The number of imbeciles is accounted for by the fact that *all* "out of school cases" have been examined but less than half the number of retards attending school.

#### CASES OF AMENTIA ASSOCIATED WITH CERTAIN PHYSICAL ABNORMALITIES.

Microcephaly	...	...	9
Oxycephaly	...	...	1
Cretinism	...	...	4
Mongolism	...	...	2

## MÉDICO-PSYCHOLOGICAL EXAMINATION OF JUVENILE DELINQUENTS REFERRED BY THE LOCAL JUSTICES.

An arrangement was made in September last between the Local Education Authority and the Local Justices for medico-psychological examination of children of school age referred by the Bench.

Of the three functions of the penal code, exaction of retribution from the convicted, deterrent action on others and the reform of the offender, the last must always be the chief consideration of a Children's Court, and it is with the question of determining the most likely means of attaining this object in individual cases that this examination is most concerned, though the question of moral responsibility may arise incidently.

To send a child to an Industrial or to a Reformatory School, who by reason of mental defect, is incapable of receiving benefit from the instruction given, or of reacting in a normal manner to the system of discipline there administered is to frustrate the main object for which Children's Courts have been instituted, while to place a child under probation when the home influences and environment are hopelessly bad is useless.

The discipline of the Industrial, and more especially of Reformatory School is, moreover, quite unsuited to a large number of cases of unstable mental equilibrium whether associated with defective intelligence or not. One came across a number of such cases in the army who had never been beyond a base, but whose mental condition was rendered so much worse by ordinary routine military discipline, that a Medical Board was obliged to recommend their discharge and the award of an "aggravation" pens on.

The clinic, therefore, cannot fail to be of immense service to the Justices trying a case, affording as it does, a mass of information on the following points :—

- (1.) General intelligence, educational ability and stability of mental equilibrium.
- (2.) Physical development, physical constitution and the existence of any physical disease or defect.
- (3.) A detailed account of home surroundings ascertained by the School Nurse attached to the Clinic.

The whole arrangement has been entered into so recently that it is inadvisable to give details of the few cases examined, two were, however, dealt with under the Mental Deficiency Act, 1913.

## ATTEMPTS TO BRING THE SUBJECTS OF MENTAL DISEASE AND MENTAL DEFICIENCY WITHIN THE SCOPE OF PREVENTIVE MEDICINE.

To the time honoured classification of the causes of mental disease (and one must now add of mental deficiency) under the two headings "heredity" and "stress" the addition of a third appears to be indicated conflict between the conscious and the unconscious." (15)

The demonstration by Tredgold of the fallacy of the doctrine of inviolability of the germ plasm from environmental influences of any kind has conducted us past such wild and impossible suggested expedients as the lethal chamber and "social surgery" down to the very root of the hereditary factor, mainly, to causes so affecting the germ plasm as to give rise to certain pathological conditions capable of transmission to descendants in the form of "germinal vitiation" or impairment of intrinsic potentiality for development affecting the germ plasm as a whole, or confined to the neuronic determinant. (16)

Besides, therefore, the very obvious expedient of discouraging by every available means the mating of couples of pronounced psychopathic inheritance, consanguineous unions and marriage of aged couples, attention must be directed to the additional factors, alcoholism, tuberculosis, and syphilis and any expedients calculated to diminish these must tend, at the same time, to diminish insanity and mental deficiency.

A number of "aggravating causes" such as abnormal conditions of mothers during the gestation period, abnormalities of labour, long continued nutritional disturbance during infancy, also need attention.

These are, of course, matters which concern the Health Department rather than the Local Education Authority, and

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(15.) A brief outline of the chief points about "psychoanalysis" will be found in the Annual Report for 1913—pp 42-45. Extracts are, moreover, constantly appearing in the daily press. One's own objection to the theories advanced by most psychoanalysts, is, that no distinction is made between instinctive animal desires and rational desire. Without such distinction by the way, it appears to me that the acceptance of determinism is involved. One certainly cannot agree with Freud that all "our highest virtues have arisen as re-actionary formations and sublimations on the basis of our worst dispositions."

(16.) Mental Deficiency, Tredgold p 30, et. seq.

Tredgold includes an admirable picture of certain microscopic appearances of sections of the brains of cases of imbecility. These appearances agree in many respects with those presented by some sections of one's own, prepared some years ago from the brain of an idiot by the Bevan Lewis "fresh method" and stained with aniline blue-black.

Viewed in this way mental deficiency may be regarded as a defect of the physical machinery by means of which mind acts upon and is reacted upon by the existing material environment. This is not the place to indulge in speculations as to the nature of mind and its relationship to brain.

An interesting critical historical sketch of the opinions of philosophers on this matter will be found in Vol. 3 of Rosmini's "Psychology" p.p. 294-460, English translation

most of them are already being dealt with by means of Tuberculosis Dispensaries, Ante-natal Clinics, Child Welfare Centres, Venereal Clinics and propaganda work.

The psychiatric clinic can help more with the prevention of mental disease than the prevention of mental deficiency and its chief function in this direction consists of the *early detection* and treatment of children of unstable mental constitution.

A number of such cases have been presented by the teachers, but it appeared to me advisable to organise a systematic search for them, in addition, in a quarter where they are most likely to be found.

One consequently entered into an arrangement last September with Dr. Menzies, Medical Superintendent of Cheddleton Mental Hospital, whereby one is sent a copy of the "notice of admission" of Stoke-on-Trent patients.

The Head Attendance Officer, Mr. Moreton, then provides me with the names of any relatives of such patients who are attending the Schools of the County Borough.

These children are then sent for and examined at the Clinic in the usual way.

Should any facts concerning family history be ascertained likely to have a bearing on the case these are communicated to Dr. Menzies. So far, out of 44 cases admitted to Cheddleton, nine have not yet been investigated, and of the remaining 35, seven relatives only, or 20% were found to be attending our Schools.

This is a much smaller percentage than one had expected. The reason has not yet been investigated.

Of these seven, one child was definitely feeble-minded, a younger sister showing deficient intelligence, but of a degree well above the feeble-minded limit, was backward educationally but able to receive benefit from instruction in an ordinary school, two exhibited pronounced mental instability, while the remaining three appeared to be normal.

Among the types of mental constitution liable to break down, the following have been specially recognised :

- (1) The cyclothymic, constituting the basis for recurrent episodes of insanity.
- (2) The "shut in" constituting the basis of dementia praecox.
- (3) The psychesthenic, constituting the basis of phobias and obsessions.
- (4) The hysterical, constituting the basis of the psycho-neuroses.



(5) The paranoiac, constituting the basis of paranoia and para-phrenia.

Of the mentally unstable children one examined from all sources, one met with typical examples of the cyclothymic, the "shut in" and the hysterical varieties.

The following are examples of the first two, essential features only being given. A typical case of the hysterical variety has already been given. (Case 3 p. 50).

Case 1.—CYCLOTHYMIC MENTAL CONSTITUTION.

Boy, aged 12. Paternal uncle certified insane, sister an imbecile, paternal aunt suffered from tuberculosis and committed suicide. Sits and broods for long periods and looks very vacant, at times excitable, particularly fond of reading adventure stories, good at school work, but somewhat backward at arithmetic, joins others at play and sometimes leads.

Case 2. "SHUT IN" MENTAL CONSTITUTION.

Boy, aged 12. No definite psychopathic family history could be obtained, but mother very reticent at giving any information. Youngest of a family of six, an interval of nine years since last pregnancy. A "day dreamer," mixes little with other boys, stands about the playground by himself, very self-conscious, nervous and shy, dull at school work, but fit for ordinary school, makes special effort at times, but this causes him to stutter and to break out into a perspiration, reasoning powers somewhat weak, shows several stigmata of degeneration

The Head Teacher did a great deal for this boy, induced him to join a Lad's Brigade, to take part in organised games, saw that he mixed more with his fellows, and joined in their play. This boy has now left school and gone to work on a farm.

The mentally unstable are specially liable to become dominated by influences proceeding from "repressions" and such cases may be found especially among older children, but abnormality of conduct may often be traced, especially in younger children, to some primitive instinct, not as "camouflaged" by a number of mental "mechanisms" known collectively as "the psychic censor," but in their native undisguised form.

An attempt to cultivate "ideals" and to "sublimate" animal impulses so that they may augment instead of impede the impulses of man's higher nature is the line of treatment indicated. (17)

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(17) Thus, Sandiford's "Mental and Physical Life of School Children," draws attention to the fact that the fighter of boys may be transformed into a fighter of wrongs, and the collector of cigarette cards into a collector of facts, and how, on the other hand, the maternal instinct may be so misdirected as to be wasted on cats, dogs and parrots

The efforts of a Head Teacher to overcome a marked tendency to "introversion" (withdrawal from the world of external realities to an interior world of phantasies) is noted in the last case quoted. The influence of organized physical training on such cases should also be very great.

One only regrets that fear of this boy being identified prevents one from mentioning this teacher by name.

The general impression received from the work of the Clinic is that mental instability is a far greater drawback to the community than intellectual or educational deficiency.

Primary ailments of stable type, unless of low grade, can be taught to perform a limited number of useful tasks tolerably well, and can be trusted at large under the general supervision of an after-care association, whereas the mentally unstable, whether such instability be accompanied by defective intelligence or not, are always unreliable, acts of delinquency are common, and many become afflicted with some definite form of insanity later in life.

(b) THE TREATMENT OF EAR DISEASE IN SCHOOL CHILDREN BY E. A. C. SWAINSON, M.A., M.B.  
ASSISTANT SCHOOL MEDICAL OFFICER.

During the year 1920 I examined personally 395 cases of ear trouble, and have tried here to arrange them in groups.

TABULAR CLASSIFICATION OF 395 CASES OF EAR DISEASE OCCURRING AMONG 395 SCHOOL CHILDREN SHOWING THE EFFECTS OF TREATMENT.

	Cured	Improved	Unchanged	Total
(1) Wax	45	53	—	98
(2) Old Disease	—	—	51	51
(3) Otorrhoea	54	49	10	113
(4) Refused, or did not attend	—	—	72	72
(5) Recommended Operation	—	—	33	33
(6) Other Cases	16	—	—	16
(7) For examination and Report	—	—	—	12
Total	115	102	178	395

First, and simplest, impacted wax, and nothing more : removed 45 cases.

Second, impacted wax removed, but old disease found underneath, which means some life-long impairment of hearing : 53 cases.

Third, children sent up for deafness in whose ears old disease was found, and interference was thought inadvisable : 51 cases.

Operations of various kinds have been performed on such people with varying and somewhat uncertain results.

Until better things can be promised, I think it better not to recommend these children for surgical treatment, which is very difficult to carry out through the small ear passages of children.

Judging from our experience of the world around us, these people reconcile themselves with unexpected ease to some slight degree of deafness throughout life.

A very small percentage in later life get some improvement from artificial drums.

Otorrhoea, i.e. discharge from ear. cases 113 in number form the next important group.

Practically every running ear can be improved, the offensiveness of the discharge diminished, or removed, and the quantity greatly lessened.

In only 10 of these was there complete failure to obtain any signs of healing and in which a radical operation seemed to be the only hope, unless, which is doubtful, time may bring about a spontaneous cure.

In groups (2) and (3) we have 104 cases of these spontaneous cures, but we must remember that the ear is not restored to normal, the delicacy of function is gone for ever.

Forty-nine running ears were very definitely improved and we have still hopes for them.

Fifty-four were, one might say, reduced to dryness, lasting one month or more.

I ask these children to come back in a month for inspection, or of course, if the running starts afresh.

I fear, that some, like the nine lepers, do not return, but I think it is fair to class them under the heading, because dry on the whole. These last results are gratifying, for almost all our cases are of long standing.

Among them are a few in which the drum membrane appears perfectly normal after healing, and who have good hearing.

The next group, 72 in number, of refusals to attend, is perhaps too large, but, considering the geography of our area, not larger than might be expected.

A visit from a distant part, such as Longton, means a whole afternoon or morning away from School.

I mention afternoon first, for I consider it to be the better time for ear cases to attend, the children are not so swallowed up in the surging crowd of minor cases, and from the School Teacher's point of view it is a better time to give up.

If attendance daily is to be continued for some weeks, or even months, the most persevering parents and optimistic teachers are apt to be discouraged, and some do not risk discouragement.

If one could give a definite promise, but there's the rub!

Adenoids remain a serious trouble and the 33 cases seen at the clinic bear quite an unknown relation to the real number. In fact, this 33 includes polypi, and recommendations for a radical operation.

I personally have only strenuously advised removal in bad cases, with snoring, snuffling and commencing deafness. Probably others besides these would benefit by operation, but a certain amount of selection is inevitable.

The root cause of adenoids is still to seek, the evil effects come I am convinced from ill development of the jaw, that is to say, a good jaw can put up with an amount of glandular enlargement which would be disastrous in a poor one. Everyone will admit that our jaws are becoming feebler with civilisation, or would it be better to say there are more people with poor jaws than formerly?

Other cases 16 are a miscellaneous lot.

Among them are two of foreign body in the ear passage, one a poppy seed, for six years. There was free discharge, and apparently a hole in the drum membrane; after removal in a few days everything appeared perfectly sound.

One case of almost complete deafness from hereditary disease was kindly taken in hand by the North Staffordshire Infirmary Surgeons, but unfortunately the treatment not being of the nature the parents desired, attendance was discontinued and an opportunity of benefiting the child deliberately thrown away.



The last heading represents children with varying degrees of mental defect sent to me by Dr. Hughes.

Finally, what are the causes of ear trouble?

Last year I mentioned the so-called children's diseases as leading causes.

There is however, quite a considerable residue of cases dating from early infancy, in fact, I have even been told, from birth, where the child has not had measles or other sickness of note.

There seems to be a little connection with absolute poverty, but they seem to arise in families where infant hygiene is neglected, where the baby sleeps by day in the kitchen, instead of out of doors in a perambulator, the more sensible method, and accompanies its mother to places of entertainment.

I think a bad start is given to the child, and the ear along with other parts of the body, succumbs more readily to attacks of possibly tubercle, at all events, some infection.

During this next year, I hope to make an actual inquiry into the surroundings and methods of bringing up of these early cases.

E. A. C. SWAINSON,

(c) RESULTS OBTAINED BY TREATMENT IN A  
RESIDENTIAL OPEN-AIR SCHOOL OF  
PHLYCTENULAR DISEASE OF THE EYES,

By W. DUNCAN LAWRIE, M.D.,  
Assistant School Medical Officer.

That phlyctenular disease is a sequel to poverty conditions receives ample confirmation in this district. The disease is conspicuously absent in well-cared-for children. Investigation of phlyctenular cases brings into the light, house after house characterised by dirt, bad ventilation, overcrowding and poor food supply. The absolute indifference to bedroom ventilation is amazing, and it is common to find small bedrooms occupied by several children with no fire-places and shut-windows.

The remedy at hand, is of course, to educate the community to open the bedroom windows. But this is not so simple a proposition as it seems at first sight. How is it possible for under-nourished people possessing only the scantiest supply of the poorest quality of blankets to sleep in a current of fresh air?

In the past, the association of phlyctenular disease with tuberculosis has given some excuse for its existence, for its chronicity, and for its great tendency to relapse.

There is now good reason to believe that phlyctenular disease is not a tubercular disease as ophthalmic surgeons (one in England and one in America) practicing in areas where tubercular patients congregate under healthy conditions for climatic treatment, affirm the rarity of phlyctenular disease amongst patients suffering from all kinds of tuberculosis.

Dietic experiments in young rats have shewn that total deprivation of the fat-soluble vitamins from the food supplied has a specific effect in lowering the vitality of the cornea. Complete destruction of the cornea follows if the experiment be continued sufficiently long.

The dietary of children afflicted with phlyctenular disease is poor in the three recognised vitamins and also in protein. It contains an excess of starch.

Such a dietary not only lowers the powers of resistance of the cornea to infection by micro-organisms, but in addition the resistance of the tissues generally is lowered and these children are very liable to become tubercular, or infected with some other disease, such as pneumonia.

In one family suffering from poor feeding one child may have tuberculosis, a second, pneumonia, and the third phlyctenular disease.

Thirty-seven cases of phlyctenular disease were admitted to the Hanchurch Residential Open-air School for periods varying from one to five and a half months. The immediate results were good, and in all cases the child was discharged in a very much improved condition.

This treatment can only be looked upon as a success, if, on the child's return home, the parents are able to provide such fundamental necessities as a proper supply of food, proper ventilation, and a decent standard of cleanliness.

The table appended gives details of 29 cases of phlyctenular disease admitted to Hanchurch during 1920 which were inspected in January, 1921.

Nine cases had had relapses. Case No. 8, a boy of 12, is an errand boy out of school hours. He has a very poor appetite his food is insufficient, and he does not like meat. Five children sleep in the bedroom which has no ventilation at nights. Case No. 18 was at Hanchurch for five and a half months. She went in, a puny, pale-faced child, and came out a rosy, chubby child with the bloom of health on her cheeks. She appears to be gradually degenerating towards her previous condition. The mother goes to work. Case No. 27 relapsed very soon. There is only one wage earner, the wage is low,

and the family large, and the food consequently poor. In the case of No. 28, the father was out of work for a time and the food supply became very poor.

On the other hand there are encouraging cases. No. 15 had suffered from phlyctenular disease for four or five years before admission to Hanchurch. She has since remained in good health and has had no relapse. At Hanchurch she learned how to take care of herself and is now of an age to insist on proper feeding. Considerable damage had already been done to vision. There is a central opacity of both corneae. The vision in the right eye is 6/18ths partly, and of the left eye 6/60ths.

If permanent benefit is to follow a stay at Hanchurch, persistent following up is required on the return of the children to their homes.

Some of the children; will require to be provided with school meals.

The parents are encouraged to exert themselves to do their best to improve the home circumstances if continued interest be taken in the welfare of the children.

W. DUNCAN LAWRIE.

NOTE BY SCHOOL MEDICAL OFFICER.

There being no School Nurse with sufficient time available for the purpose, my enthusiastic colleague collected the facts referred to in the above article concerning home conditions, by visiting these children's homes himself.

TABLE OF 29 CASES OF PHLYCTENULAR DISEASE TREATED AT  
HANCHURCH RESIDENTIAL OPEN-AIR SCHOOL IN 1920.

No.	Sex and age	Date of admission	Weight on admission	Date on discharge	Weight on discharge	Weight in January, 1921	REMARKS
1	B 12	12/1/20	3st. 11 $\frac{1}{2}$ lbs.	10/4/20	4st. 4 $\frac{1}{2}$ lbs.	4st. 4 $\frac{1}{2}$ lbs.	No relapse
2	G 10	5/1/20	3st. 7 $\frac{1}{2}$ lbs.	10/4/20	3st. 13lbs.	4st. 1 $\frac{1}{2}$ lbs.	No relapse
3	B 13	12/1/20	5st. 6lbs.	31/3/20	6st.	5st. 5 $\frac{1}{2}$ lbs.	No relapse
4	B 9	12/4/20	3st. 13lbs.	12/5/20	4st. 1 $\frac{1}{2}$ lbs.	4st. 6 $\frac{1}{2}$ lbs.	No relapse
5	G	12/1/20	3st. 2 $\frac{1}{2}$ lbs.	10/4/20	3st. 4lbs.	3st. 8 $\frac{1}{2}$ lbs.	No relapse
6	G 13	12/4/20	4st. 11 $\frac{1}{2}$ lbs.	19/6/20	5st. 5 $\frac{1}{2}$ lbs.		No relapse. Left School. Mother say Hanchurch has been the making of her.
7	G 12	12/4/20	4st. 10 $\frac{1}{2}$ lbs.	12/5/20	5st. 1 $\frac{3}{4}$ lbs.	5st. 3 $\frac{1}{2}$ lbs.	No relapse
8	B 12	12/1/20	4st. 13 $\frac{1}{2}$ lbs.	31/3/20	5st. 8 $\frac{1}{2}$ lbs.	5st. 12lbs.	Relapsed. Works as errand boy. Appetite very poor. Does not like meat. No ventilation in bedroom at night.
9	B 6	12/1/20	3st.	10/4/20	3st. 3 $\frac{1}{2}$ lbs.	3st. 8 $\frac{1}{2}$ lbs.	No relapse
10	B 12	26/1/20	5st. 6lbs.	10/4/20	6st.	6st. 7lbs.	Relapsed 14 days ago. Looks ill, having very little fresh air.
11	B 8	12/4/20	3st. 13 $\frac{1}{2}$ lbs.	19/6/20	4st. 3 $\frac{1}{2}$ lbs.	4st. 5 $\frac{1}{2}$ lbs.	No relapse
12	B 11	19/4/20	3st. 11lbs.	7/8/20	4st. 2 $\frac{1}{2}$ lbs.	4st. 1 $\frac{1}{2}$ lbs.	Still has chronic conjunctivitis.
13	G	12/1/20	3st. 1 $\frac{1}{2}$ lbs.	10/4/20	3st. 4 $\frac{1}{2}$ lbs.	3st. 4 $\frac{1}{2}$ lbs.	No relapse
14	G 9	19/4/20	3st. 11lbs.	19/6/20	4st. 3 $\frac{1}{2}$ lbs.	4st. 4 $\frac{1}{2}$ lbs.	One relapse



TABLE OF 29 CASES OF PHLYCTENULAR DISEASE TREATED AT  
HANCHURCH RESIDENTIAL OPEN AIR SCHOOL IN 1921—Continued.

No.	Sex and age	Date of admission	Weight on admission	Date on discharge	Weight on discharge	Weight in January, 1921	REMARKS
15	G 12	5/1/20	4st. 8½lbs.	10/4/20	5st. 0½lbs.	5st. 4lbs.	No relapse
16	B 9	19/5/20	3st. 10lbs.	20/11/20	4st. 3lbs.	3st. 12½lbs.	Relapsed. Very poorly nourished. Rickety child.
17	G	4/4/20	4st. 12½lbs.	12/5/20	5st. 4½lbs.	5st. 9½lbs.	No relapse
18	G 9	5/1/20	3st. 1½lbs.	19/6/20	3st. 11½lbs.	3st. 7lbs.	Relapse. Mother goes to work.
19	B	19/7/20	4st. 1½lbs.	20/11/20	4st. 7lbs.	4st. 4lbs.	Relapse
20	G 9	19/7/20	3st. 7lbs.	16/10/20	4st. 1½lbs.	3st. 10lbs.	No relapse
21	G 11	12/4/20	3st. 4lbs.	19/6/20	4st. 8½lbs.	4st. 5lbs.	No relapse. In better health. "The making of her."
22	G 13	21/6/20	5st. 11½lbs.	24/7/20	6st. 3½lbs.	6st. 5lbs.	Two relapses
23	G	12/4/20	4st. 1½lbs.	17/7/20	4st. 9½lbs.	4st. 9lbs.	No relapse
24	B	19/7/20	4st. 3lbs.	16/10/20	5st. 2½lbs.	4st. 10lbs.	No relapse
25	G	12/4/20	3st. 2½lbs.	17/7/20	3st. 8½lbs.	3st. 12½lbs.	No relapse
26	B	13/9/20	3st. 5½lbs.	16/10/20	3st. 9lbs.	3st. 7lbs.	No relapse
27	G	19/7/20	4st.	16/10/20	4st. 5½lbs.		Relapsed. Poor feeding. Low wages.
28	B	26/6/20	4st. 11½lbs.	11/9/20	5st. 3lbs.		Relapsed. Father out of work. Poor food.
29	G 8	12/4/20	3st. 11½lbs.	11/8/20	4st. 2½lbs.	4st. 5½lbs.	No relapse

(d) "SQUINT" by W. DUNCAN LAWRIE, M.D.,

Assistant School Medical Officer.

*Convergent Squint.* Out of 147 cases of convergent squint which received treatment, glasses were prescribed in 113 cases. As eleven of these cases were recognised to be incurable, and the glasses were prescribed on account of defective vision in the fixing eye, the number of squint cases treated by the prescription of glasses is reduced to 102 out of a total of 147 cases or 69.3 per cent.

Glasses were obtained in 77 cases, and of these, 28 are cured, leaving 49 not yet cured, of which, eight (all over eight years of age) are incurable owing to amblyopia in the squinting eye. Analysis of these two groups shows a greater percentage of cases over eight years of age and of anisometropia in the uncured group.

The group of 28 cured cases gives 10.7 per cent of cases over eight years of age, and 25 per cent. of cases of anisometropia; the group of 49 not yet cured gives 46.9 per cent. of cases over eight years of age and 46.9 of anisometropia, or, excluding eight incurable cases, 41 cases of the uncured group gives a percentage of 30.6 over eight years of age and 34.7 of anisometropia.

GROUP 1. 28 CASES. GLASSES OBTAINED.  
SQUINT CURED.

Age	No. of cases	Boys	Girls	Errors of refraction		
				Hyperopia	Astigmatism	Anisometropia
4	2	—	2	1	—	1
5	8	5	3	6	—	2
6	7	3	4	5	1	1
7	5	1	4	3	1	1
8	3	3	—	—	1	2
9	—	—	—	—	—	—
10	1	—	1	1	—	—
11	—	—	—	—	—	—
12	2	—	2	1	1	—
Total	28	12	16	17	4	7

GROUP 2. GLASSES OBTAINED. SQUINT NOT  
CURED,

Age	No. of cases	Boys	Girls	Errors of refraction		
				Hyperopia	Astigmatism	Anisometropia
3	1	—	1	—	—	1
4	10	4	6	8	—	2
5	4	4	—	3	—	1
6	5	3	2	2	2	1
7	6	6	—	2	—	4
8	5	3	2	1	1	3
9	5	4	1	—	—	5
10	5	2	3	1	1	3
11	3	1	2	1	1	1
12	5	3	2	2	1	2
Total	49	30	19	20	6	23

N.B. Hyperopia—long sight. Astigmatism—unequal sight in different meridians, and Anisometropia—unequal sight in the two eyes. Amblyopia—loss of sight from disuse.

In the group of 32 who have not obtained the glasses prescribed, there are three incurable cases, all over twelve years of age and with incurable amblyopia in the squinting eye. There are, thus, 70 cases still remaining under treatment, 41 uncured cases now wearing glasses, and 29 cases for whom glasses have been prescribed but not yet obtained. These cases will entail careful and persistent following up.

*Divergent Squint.*—There were eight cases as follows:—

Eye blind from cyclitis following pneumonia...	1 case.
Central opacity of cornea converging pupil ...	2 cases.
Anisometropia ... ..	2 cases.
Myopia ... ..	1 case.
Compound myopic astigmatism ...	1 case.
Hyperopia ... ..	1 case.

Four cases were incurable. Glasses were prescribed in four cases and obtained in three. One case was cured. Two cases have left school and passed out of observation.

W. DUNCAN LAWRIE.

(23) Miscellaneous.

(a) EXAMINATION OF EXHIBITIONERS.

The number examined was 80, of which 14 were boys and 66 girls.

Of these 30 were referred for treatment and two for observation.

The defects found were :

Uncleanliness of head	4		Anaemia	2
Blepharitis	1		Defective Teeth	18
Defective Vision	7		Malnutrition	1
Squint	1		Deformity	1

The case of blepharitis was treated and cured at the School Clinic. Six of the defective vision cases also were given prescriptions for glasses. The remaining defects have all been attended to by private practitioners.

(b) STUDENT TEACHERS.

Four were examined, one male and three females. There were no defects to note.



TABLE 1. Number of Children inspected  
1st January, 1920 to 31st December, 1920.

**A. ROUTINE MEDICAL INSPECTIONS.**

ENTRANTS.

AGE			3	4	5	6	Other ages	Total
BOYS	..	..	5	916	1080	178	45	2224
GIRLS	..	..	9	837	1088	200	62	2196
TOTALS	..	..	14	1753	2168	378	107	4420

  

			Inter- mediate Group 8	Leavers				Total	Grand Total
				12	13	14	Other ages		
BOYS	..	..	2267	2125	162	16	2	4572	6796
GIRLS	..	..	2186	2213	151	25	—	4575	6771
TOTALS	..	..	4453	4338	313	41	2	9147	13567

**B. SPECIAL INSPECTIONS.**

			Special Cases	Re-examinations (i.e. No. of children re-examined)
BOYS	..	..	3040	2979
GIRLS	..	..	3219	3152
TOTALS	..	..	6259	6131

**C. Total number of Individual Children inspected by the Medical Officers, whether as Routine or Special Case (no child being counted more than once).**

No. of Individual Children inspected	..	..	19,486
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TABLE II. Return of defects found in course the  
of Medical Inspection in 1920.

This table, except as regards the final line. is a record of *Defects* and not of individual children who are defective. For the sake of convenience cases of squint are not recorded, also, under the heading of "Defective Vision" and cases of defect of Nose and Throat are included in one only of the sub-heading.

				ROUTINE INSPECTIONS.		SPECIALS.	
Defect or Disease				No. referred for treatment	No. requiring to be kept under observation but not re- ferred for treatment	No. referred for treatment	No. requiring to be kept under observation but not re- ferred for treatment
Malnutrition	..	..		71	37	42	4
Uncleanliness—							
Head	..	..		352	2	314	—
Body	..	..		31	3	13	1
SKIN	Ringworm—						
	Head	..	..	46	2	380	—
	Body	..	..	16	—	142	—
	Scabies	..	..	48	2	303	1
	Impetigo	..	..	131	2	991	1
	Other diseases (non-tubercular)	..	..	89	2	371	5
EYE	Blepharitis	..	..	157	2	205	2
	Conjunctivitis	..	..	49	1	484	—
	Keratitis	..	..	8	1	77	—
	Corneal Ulcer	..	..	10	—	38	—
	Corneal Opacity	..	..	15	1	1	—
	Defective vision	..	..	652	89	524	2
	Squint	..	..	87	21	64	1
	Other conditions	..	..	37	1	83	1
Ear—							
	Defective Hearing	..	..	149	9	102	1
	Otitis Media	..	..	159	10	252	—
	Other Ear diseases	..	..	1	—	61	—
	Enlarged Tonsils	..	..	186	39	32	6
	Adenoids	..	..	89	29	35	8
	Enlarged Tonsils & Adenoids	..	..	95	8	28	2
	Other conditions	..	..	1	—	39	23

TABLE II—*continued.*

Defect or disease	ROUTINE INSPECTIONS.		SPECIALS	
	No. referred for treatment	No. requiring to be kept under observation but not re- ferred for treatment	No. referred for treatment	No. requiring to be kept under observation but not re- ferred for treatment
Enlarged Cervical Glands (non-tubercular)	41	3	31	2
Defective Speech..	—	2	2	3
Teeth—Dental diseases	215	3	15	—
Heart and Circulation—				
Heart disease—				
Organic	64	22	25	5
Functional	76	86	19	4
Anæmia	81	27	57	11
Lungs—				
Bronchitis	195	51	35	4
Other non-tubercular diseases	1	3	12	3
Pulmonary—Definite	17	4	69	3
suspected	25	12	77	11
Tuberculosis, non-pulmonary—				
Glands	6	2	25	—
Spine	1	1	3	1
Hip	3	—	2	1
Other Bones and Joints	4	—	3	—
Skin	2	—	5	—
Other Forms	—	1	—	—
Nervous System—				
Epilepsy	3	6	6	2
Chorea	7	—	27	—
Other conditions	4	4	7	—
Deformities—				
Rickets	11	—	7	—
Spinal Curvature	9	4	5	2
Other forms	43	5	28	5
Other defects and disease	142	25	752	80

Number of Individual Children having Defects which required  
treatment or to be kept under observation .. 7,504

TABLE III.

# Numerical Return of all exceptional Children in the area.

	Boys.	Girls	Total.
BLIND (including partially blind) within the meaning of the Elementary Education Education (Blind and Deaf Children) Act, 1893			

Attending Public Elementary Schools ..	12	24	36
Attending Certified Schools for the Blind..	14	9	23
Not at School .. .. .	2	—	2

DEAF AND DUMB (including partially Deaf within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893)

Attending Public Elementary Schools ..	8	2	10
Attending Certified Schools for the Deaf..	15	21	36
Not at School .. .. .	2	1	3

## MENTALLY DEFICIENT.

### *Feeble Minded—*

Attending Public Elementary Schools ..	76	60	136
Attending Certified Schools for Mentally Defective Children .. .. .	5	—	5
Notified to the Local Control Authority by the Local Education Authority during the year .. .. .	—	—	—
Not at School .. .. .	3	—	3

### *Imbeciles—*

At School .. .. .	—	—	—
Not at School .. .. .	24	7	31

<i>Idiots—</i> .. .. .	4	1	5
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## EPILEPTICS.

Attending Public Elementary Schools ..	15	9	24
Attending Certified Schools for Epileptics..	1	—	1
In Institutions other than Certified Schools	—	—	—
Not at School .. .. .	7	8	15



TABLE III—*continued.*

<i>Pulmonary Tuberculosis—</i>	Boys.	Girls.	Total.
Attending Public Elementary Schools ..	83	33	116
Attending Certified Schools for Physically Defective Children ..	—	—	—
In Institutions other than Certified Schools	22	92	114
Not at School .. .. .	21	20	41

*Crippling due to Tuberculosis—*

Attending Public Elementary Schools ..	12	19	31
Attending Certified Schools for Physically Defective Children ..	—	—	—
In Institutions other than Certified Schools			
Not at School .. .. .	36	32	68

## PHYSICALLY DEFECTIVE.

*Crippling due to causes other than Tuberculosis  
i.e. Paralysis, Rickets, Traumatism—*

Attending Public Elementary Schools ..	53	42	95
Attending Certified Schools for Physically Defective Children ..	—	—	—
In Institutions other than Certified Schools	10	17	27
Not at School .. .. .	19	18	37

## PHYSICALLY DEFECTIVE—continued.

*Other Physical Defectives, e.g., delicate and  
other children suitable for admission to open-  
air Schools, children suffering from severe heart  
disease—*

Attending Public Elementary Schools ..	74	86	160
Attending Open-air Schools .. ..	47	58	105
Attending Certified Schools for Physically Defective Children, other than Open-air Schools ..	—	—	—
Not at School .. .. .	8	11	19

## DULL OR BACKWARD.

Retarded two years .. ..	399	368	769
Retarded three years .. ..	147	145	292

TABLE IV.

**A—TREATMENT OF MINOR AILMENTS.**

NUMBER OF CHILDREN.

Disease or defect	Referrrd for treatment	TREATED		
		Under Local Education Author- ity's Scheme	Otherwise	Total
Skin—				
Ringworm—Head .. ..	426	383	19	402
„ Body .. ..	158	148	5	153
Scabies .. ..	351	276	30	306
Impetigo .. ..	1142	936	76	1012
Minor injuries .. ..	280	280	—	280
Other Skin Diseases .. ..	460	358	37	395
Ear disease .. ..	716	447	41	488
Eye Disease—external and other ..	1164	628	49	677
Miscellaneous .. .	500	477	23	500

**B—TREATMENT OF VISUAL DEFECTS.**

NUMBER OF CHILDREN SUBMITTED TO REFRACTION,

Referred for Refraction	Under Local Education Authority's Scheme, Clinic, or Hospital	By Private Practitioner or Hospital	Otherwise	Total
1327	921	109	2	1032

  

For whom Glasses were prescribed	For whom Glasses were provided	Recommended for treatment other than by Glasses	Received other forms of treatment	For whom no treatment was considered necessary
732	358	55	40	245

TABLE IV—continued.

C—TREATMENT OF DEFECTS OF NOSE AND THROAT.

NUMBER OF CHILDREN RECEIVED OPERATIVE TREATMENT.

Referred for treatment	Under Local Education Authority's Scheme, Clinic, or Hospital	By Private Practitioner or Hospital	Total	Received other forms of treatment
505	—	56	56	52

D—TREATMENT OF DENTAL DEFECTS.

1—AGE GROUPS.

	5	6	7	8	9	10	11	12	13	14	Specials	Total
(a) Inspected by Dentist ..	—	3277	2955	10							336	6578
(b) Referred for treatment ..			1648								336	1984
(c) Actually treated ..			531								336	867
(d) Re-treated (result of periodical examination) ..			135								1	136

2

No. of half days devoted to inspection	No. of half day devoted to treatment	Total number of attendances made by the children at the Clinic	No. of Permanent teeth	
			Extracted	Filled
140	260	877	501	794
No. of Temporary Teeth		Total No. of Fillings	No. of other Operations	
Extracted	Filled		Permanent Teeth	Temporary Teeth
1456	79	873	3	—

TABLE V. Summary of Treatment of defects as shewn in Table IV (A, B, C, D and F).

		TREATED			
Disease or Defect		Referred for treatment	Under Local Education Authority's scheme	Otherwise	Total
Minor ailments	..	5197	3933	280	4213
Visual defects	..	1327	921	111	1032
Defects of Nose and Throat	..	505	—	108	108
Dental defects	..	1984	867	—	867
Other defects	..	1546	—	736	736
Total	..	10559	5721	1235	6956



TABLE VI.

Summary relating to children medically inspected  
at the routine inspections during the year 1920.

(1).	The total number of Children medically inspected at the Routine Inspections				13567
(2)	The number of Children in (1) suffering from defects (other than uncleanness or defective clothing or foot- gear) who require to be kept under observation (but not referred for treatment)				512
(3)	The number of Children in (1) suffering from :—				
	Malnutrition	..	..	..	108
	Skin Disease	..	..	..	338
	Defective Vision (including squint)		..	..	849
	Eye disease	..	..	..	282
	Defective hearing		..	..	158
	Ear disease	..	..	..	170
	Nose and Throat disease	..	..	..	445
	Enlarged Cervical Glands (non-tubercular)			..	44
	Defective Speech	..	..	..	2
	Dental disease	..	..	..	218
	Heart disease—Organic	..	..	..	86
	„ Functional	..	..	..	162
	Anæmia	..	..	..	108
	Lung disease (non-tubercular)		..	..	253
	Tuberculosis—				
	Pulmonary { definite	..	..	..	21
	{ suspected	..	..	..	37
	Non-pulmonary	..	..	..	20
	Disease of the Nervous system		..	..	24
	Deformities	..	..	..	72
	Other defects and diseases	..	..	..	167
(4)	The number of children in (1) who were referred for treat- ment excluding uncleanness, defective clothing, etc...				2858
(5)	The number of children in (4) who received treatment for one or more defects (excluding uncleanness, defective clothing, etc.)				1520





